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December 1994

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# AMIGA

## WORLD

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An IDG Communications Publication

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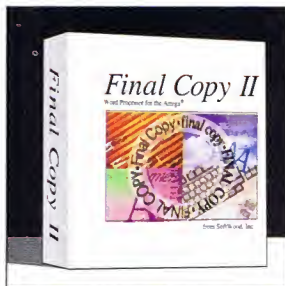
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**New Release 3.** "...Final Writer is arguably the best word processor yet released for the Amiga.", Amiga World, March 1994. "...Final Writer is the top Amiga word processor to rival even the Mac and PC heavyweights.", CU Amiga (England), January 1994. Final Writer has all of Final Copy II's features (see above) plus many more. It includes: undo; easy bold, italic, and underlining; table of contents, table of illustrations, endnotes, bibliography, and index generation; sections; multiple master pages; EPS graphic support; 120 outline fonts; rotating graphics; movable text blocks; and a user button strip. Release 3 now includes easy page numbering, drag and drop, type and spell, polygon drawing tool, special shape drawing tools, and dictionary hyphenation. Requirements: 2.5 megabytes of RAM, hard drive, and Workbench 2.04 or higher.



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# New!

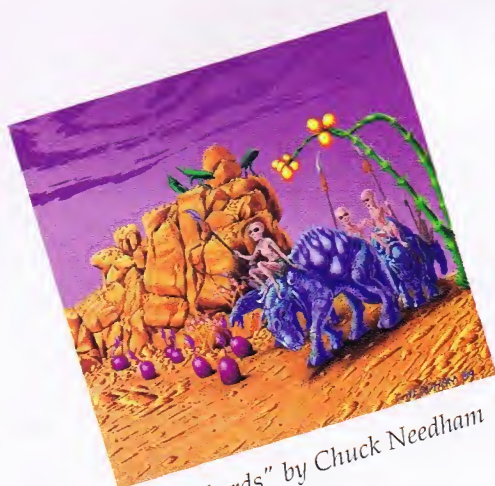
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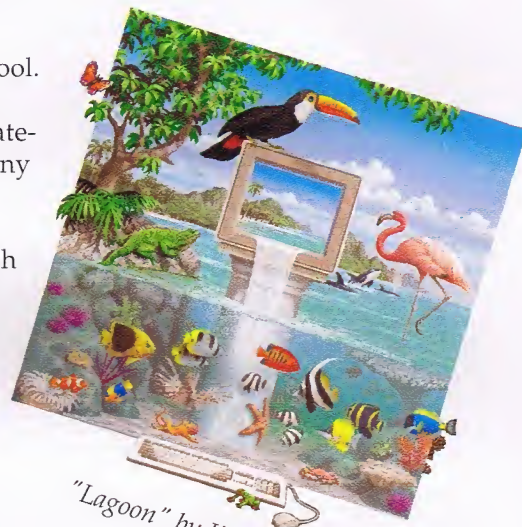
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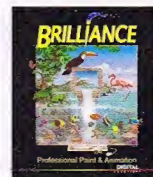
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# DIGITAL

C R E A T I O N S

# FIRST IMPRESSIONS

*It seems we've stood and talked like this . . .*

Watching horse races at bush tracks, you sometimes see some pretty poor events in which it seems the entire field is lumbering down the stretch wearing ankle boots of the kind favored by the late Jimmy Hoffa. Copy that thought for the "Commodore Derby" described in this column a month ago.

Thirty days is short if you're in the army, short if you want to pay off your entire MasterCard bill, and short if you're trying to select the jury in the OJ Simpson trial. But considering where I thought we were last month in the liquidation proceedings, I can't believe no one's turned up in the Commodore winner's circle by now. I guess lawyers don't make good jockeys.

## SO WHO ARE WE MAD AT?

By their lack of haste, lawyers do, however, make my column appear almost timely. Let's face it, when it comes to news, magazine publishing in its present format isn't ready for even the entrance ramp to the "I-way," nor is it even competitive with traditional-format daily or weekly newspapers. (You can't believe, dear old reader, how scary it is to send out an editorial column like this when I know how many weeks later it's actually going to be before you read it in print.)

So although I went out on a limb last month to make a prediction (that the former UK management team would win), thirty days later nothing's come back (yet!) to haunt me—because *nothing* was resolved in the interim. Even back in November 1948, when almost every newspaper in the country ran the headline "Dewey Wins!" they only had to wait eight hours to eat crow and run a new morning edition with "(Sorry) Truman's Back!"

## BAHAMIAN BOSSANOVA—ALLEGRO!

So, let's get the legal proceedings on the move. The fact that the Bahamian Supreme Court required the liquidators' recommendations by October 15 (see "Overscan," p. 4) sounds like at least one step forward for Amigakind. The fact, also, that David Pleasance has already put the pedal to the floor to have all operations—production, distribution, and marketing—in place and ready to go shows that he's ready to move immediately if his group wins the bid. And the fact that Alex Amor of CEI has conducted several online interviews recently to outline his plans in great detail should he be the winner demonstrates that he means business, too. Everyone is ready and waiting. Maybe with a little (slightly edited) '60s Dylan-power behind us, we could exhort the legal eagles to listen to us:

Come lawyers and judges  
Who decree with your pen,  
And keep your eyes wide  
The chance won't come again;  
And *please speak real soon*  
For the wheel's still in spin,  
And there's no telling who that it's namin';  
For the loser now *may never get to win*  
For the times they are a-changin'!

*Daniel Sullivan*

**Daniel Sullivan**  
Editor-in-Chief

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# OVERSCAN

## SOUND AND MOTION

Let *MetroGrafx* add a little "bounce" to your animations with two new Motion Master utility collections (\$149.95 each).

**Motion Master Volume I**, a set of four programs, includes Time Machine for LightWave 3D, which features a timeline-editing environment for fast and easy morph setup, automatic key setup on a common graph, and a set of phonetic mouth positions for easy animated lip syncing.

The Extract Audio utility features speech synchronization with adjustable curve fitting, and the scaling and placement of audio data on any channel of a motion envelope.

The Pathflock flocking program features a true behavioral flocking technique with collision avoidance. It includes controls for strength of flocking urge, minimum intraobject distance, distant "bird" convergance with the flock, and a chaos factor for mapping erratic flight.

Finally, the Mouse Recorder utility provides a "scratch pad" to record mouse movement in real time, which it can then

apply to an envelope or motion file.

**Motion Master Volume II** provides four new animation and motion-control utilities. If you work with hierarchically linked objects, the Child World 2 multiple-coordinate system translator may come in handy. It lets you detach a child object, even one inherited from a parent, with all motions and scaling intact.

Meanwhile, Wobbler adds wobble and spring to animated objects based on their motion and rotational velocity. It includes behavior controls such as damping and "blobbyness."

The Point At targeting utility makes it possible for an object to target another object. It takes source and target motion and produces a new source that has the same position and scale—but a z axis aligned with the target's path.

The last entry on Volume II is Volume Cube. You simply define a volume in space and specify objects, quantity, and velocity. From there, the utility builds a scene containing the objects bouncing around with a constant velocity inside that area.

## COMMODORE WATCH

Developments in the Commodore liquidation proceedings took a new turn as this issue of *AW* was going to press when it was reported that another group had entered the bidding process. Although not officially confirmed by the Court-appointed trustees, it appears that a proposal was received from a German-based group comprised of former officials of the now-defunct Commodore Germany and Commodore Netherlands subsidiaries (with rumored backing from Australian financial interests).

This eleventh-hour bid represents a somewhat bizarre twist in the legal proceedings, since the trustees supervising the liquidation were under a deadline of October 15 to make their recommendations to the Bahamian Supreme Court. The Court was then supposed to render its decision and announce the winning bid—although no time limit had been set as to when that decision had to be reached.

Meanwhile, the two groups that have publicly acknowledged their bids—the former management team of Commodore UK, headed by David Pleasance, and CEI of Florida, under the direction of Alex Amor—both remained confident of success. During two lengthy online conferences at the beginning of October, Amor graciously fielded questions from all comers and outlined in great detail his plans for Amiga development under CEI ownership. Pleasance, also brimming with plans, held meetings in half a dozen countries to discuss the relaunch of the Amiga spearheaded by his company.

—DS

## TELECOM WITH TEETH

*Oregon Research* wants to help you chew through telecommunications. Its new **Termite** terminal program (\$49.95) supports data-transfer speeds from 300 to 115,200 baud. The program also allows multiple-line BBSs, a multitasking chat window, automatic call logging, configurable macros and button bars, and a flexible phone book with distinct configurations for each number. Plus, it has a customizable review buffer with cut-and-paste editing.

Termite is fully ARexx-programmable and 100% Amiga Style Guide-compliant, and it operates on all Amigas with one megabyte or more of RAM and Workbench 2.0 or later.

## THE LAWS OF PHYSICS

Einstein never had it so good! *Opportunity With Learning (OWL)* has just released its new educational physics software, **Physics Laboratory in Mechanics**. This multimedia program teaches kinematics, rotational kinematics, dynamics, statics, universal gravitation, work and energy, and impulse and momentum. An interactive lab notebook allows students to simulate 21 different physics experiments, offering instructions on how to perform the experiments using everyday objects.

Also included are history, math, and unit reference sections. Requires AmigaDOS 2.0 or later, 2MB of RAM, and a hard disk.

This month, Tyson Knowles wrote and compiled *Overscan*. Send your news and press releases to *Overscan*, *Amiga-World* Editorial, PO Box 802, 80 Elm St., Peterborough, NH 03458-0802, or via e-mail to [record@dv.com](mailto:record@dv.com).

To locate the vendors of products mentioned, see the "Manufacturers'/Distributors' Addresses" list on p. 27.

# News and New Products

## AUTOMATIC BACKUP

How many hours have you toiled replacing lost or deleted information? With **MultiVol Mirror** (\$45), data re-entry is a thing of the past. This new file-back-up software from **AugmenTek** "mirrors" a file to one or more devices every time you or your software saves it. Then, you can retrieve it automatically if the original is deleted, overwritten, or lost due to system error or simply a mispressed button.

Featuring a graphical interface with online help (and a command line), MultiVol Mirror works with any device, including the console. Thus, you can even record shell I/O to document your actions for future reference. MultiVol Mirror requires AmigaDOS 2.04 or later.

## GUIDE TO THE GALAXY

Trying to find the quickest route to the information superhighway? Dale Larson's *Connect Your Amiga! A Guide to the Internet, LANs, BBSs and Online Services* (\$24.95, **Intangible Assets**) may be just the "map" you need. The reference book (ISBN 1-885876-02-5) covers the ins and outs of accessing the Internet, as well as advice on buying telecommunications software and hardware. It also takes a look at popular networking hardware and software to get your Amiga linked to PCs and Macs.

## NET RESULTS

**Canadian Prototype Replicas** announces the release of **TCP/IP Internet Networking Software 2.1** (\$150). Configuring and maintaining the TCP/IP Base Kit is now just a matter of pointing and clicking, thanks to the package's new TCP/IPConfig utility. And you can now specify choices using real names instead of the oblique IP numbers many other platforms require. TCP/IPConfig creates and maintains all database and startup-script files and converts such things as host names to their IP host addresses when necessary.

Version 2.1, which requires a SANA-II device driver and Workbench 2.0, also includes an RLogin command that supports Workbench, configuration files, function keys, and ARexx.

## TAKE YOUR PICS

Photography comes home to the Amiga with **Legendary Technologies'** four-volume series of photographic clip art, **ProPics**. Available in individual 20-image volumes (\$39.95), or as a complete 80-image set (\$129.95), every digital image included is royalty-free. Each package also includes installation software, manuals with thumbnail previews of the photographs, and ProImage, an image-processing program.

For textures with a twist (sometimes literally!), try **Precision Computer Graphics' Moving Textures 100** (\$249). Made up of 22 image sequences on a CD-ROM and a videocassette, this package lets you add to your animations realistic natural phenomena such as clouds, fire, smoke, and water.

Each sequence contains 300, 600, or 900 ready-to-use IFF frames and can be implemented by any program that can handle image sequences. Moving Textures 100 has been tested with Aladdin 4.0, Imagine 3.0, Lightwave 3D 3.1, Real 3D, Art Department Professional, (using FRED) and ImageFX (using the IMP hook); of these only Imagine cannot use sequences directly off of the DC.



When static textures won't do, **Moving Textures 100** will fill the bill!

**IMAGETECTS** puts the beauty of the world's flora online with **ImageCELS Hi-Res Botannicals**. The 32-bit TGA files provide alpha-channel masking for superior quality over fractal or procedural plants. The collection now covers several hundred species of plants, ranging from trees to annuals to indoor plants, of all climates and through all seasons. Eventually, it will encompass all commercially grown species on the planet.

ImageCELS are available at \$10 each through **DesigNetwork**, a free online service. (You can download GIF thumbnails of each file free of charge.) Each one comes with detailed information on the plant, plus the pixel height, the width, and more.



## UPDATE SCAN

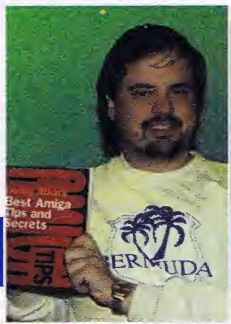
**OctaMED Pro** owners will soon find themselves "back at the books." The music sequencer and composition program is already equipped with on-line help, but for those who prefer a traditional "hardcopy" manual, the **OctaMED Professional Manual** (\$34.95, **DevWare**) promises to be the definitive tutorial and reference guide for OctaMED musicians.

DevWare, by the way, is picking up distribution of Dr. T's **KCS 3.5, Level II, Copyist DTP**, and **Tiger Cub** music sequencers.

**Heifner Communications** has just announced **Pegger 2.0**, an update to its JPEG-compression software. New features include a 200% speed increase in file conversion of IFF 24-bit files and the ability to relate the SNOOP function (which automatically compresses and decompresses files) to particular programs. Pegger 2.0 also works across networks and has been tested with ParNet, Enlan DFS, and Oxxi's Novell client software.

**MetroGrafx's** upgraded particle-animation software, **Sparks 2.1**, features motion interpolation, a pointable nozzle, animatable velocity, moving targets, random rotations, explode models, and auto-parenting and -loading. Want more? There are also scores of effects, tumbles, and bounces. Besides that, the package includes new documentation and tutorials. Sparks 2.1 retails for \$179.95; current owners can upgrade for \$45 plus \$5 shipping and handling.

**Blevins Enterprises** has added more dimensions to its 3-D digitizing system for NewTek's **LightWave** software. **Verti-Sketch 1.1** (\$2395) features new lofting commands to rapidly create polygons without splines or patches, point selection with the digitizer's probe (instead of the mouse), and a point-snap mode to automatically detect duplicate points and revert to the original. A free upgrade is available for registered users. ■



# Denny on DOS

HINTS & TIPS FOR MASTERING THE OPERATING SYSTEM

By Denny Atkin

## #7—AmigaDOS 3.1

**T**he Amiga's biggest strength has always been its operating system. In 1985, it was the most advanced OS available on personal computers, offering multitasking years before it became popular on the PC or Macintosh. AmigaDOS 2.04 then introduced a more attractive user interface as well as many much-needed improvements, and all previous Amigas could be retrofitted with this new version.

When AmigaDOS 3.0 rolled around, however, it was available only on the new A1200 and A4000; owners of classic Amigas were told they'd have to wait for 3.1, which would include some code to make the new operating system work better on machines with the original custom chip set. But before 3.1 could be released, CBM declared bankruptcy.

You can't keep a good operating system down, though. The German company Village Tronic had made arrangements to sell a licensed version of AmigaDOS 3.1, and—despite Commodore's situation—the company released the upgrade this summer. Expert Services picked up the North American distribution rights, and it's now available to most Amiga owners. (Software Hut now distributes 3.1 upgrade kits, too.)

I'll deal here with what 3.1 includes and what's involved in the upgrade process; next month I'll go into more detail regarding some of 3.1's new features.

### CHIPPING IN

The main components of AmigaDOS 3.1 are a new ROM chip containing Kick-

start 3.1, the six disks that make up Workbench 3.1, and a very nice set of manuals covering AmigaDOS, Workbench, and ARexx. Because of differences in the ROMs for various Amigas, there are three different 3.1 packages: one for the A500 and A2000, one for the A3000, and one for the A4000. Amiga 1000 owners can use the A500/2000 version with a ROM adapter such as DKB's Kwickstart II.

Mysteriously, there's no

### QUICK TIP

AmigaDOS 3.1 supports synchronous SCSI transfers on the Amiga 3000. If your drive can handle these, you'll see speedier disk transfers. If it can't, however, you'll get a lockup when you try to boot your system. Before installing 3.1 ROM chips in an A3000, you should make sure you disable the sync-transfer bit in battery-backed memory. To do this, you'll need a public-domain utility like Battmem or SCRAMmer, which are available on online networks and many BBS systems.

ROM available for Amiga 1200 owners; they can use the 3.1 Workbench disks with Kickstart 3.0, but there's currently no way for them to upgrade to Kickstart 3.1. Amiga 600 owners are completely out of luck; the only version of Kickstart ever created for that machine was 2.05, and WB 3.1 needs at least Kickstart 3.0 to function.

Installing the operating system is relatively simple, as

long as you're comfortable with replacing a chip on your computer's motherboard. It's not a difficult procedure. The trickiest parts are trying not to bend the pins on the chips and trying not to cut yourself when removing components. (I'll always remember upgrading my A4000, thanks to the scar on my finger from removing the processor daughterboard.) Just follow very carefully the instructions included with the upgrade, make sure that all the chips are oriented properly, and above all take your time and be patient.

If you're an A3000 user, be particularly careful when installing that version, as the sockets for the two ROMs in some machines are labeled backwards; follow the instructions included with the upgrade, and all will be well. If you're not comfortable with the procedure, though, you'd better let a dealer or technical friend perform the upgrade for you, as replacement Amiga motherboards are now rare.

### WHY BUY?

Should you upgrade to AmigaDOS 3.1? If you use your Amiga for more than just games, absolutely. How big an improvement you'll see depends on which operating system you're currently running. If your machine is now equipped with Kickstart 1.3 or earlier, installing 3.1 will make it perform like an entirely new computer, with a new interface, better performance, and tons of new capabilities. AmigaDOS 2.04 users will see many new improvements, such as the ability to read and write MS-

DOS disks, language support, PostScript printing, better font support in some applications, IFF Workbench backdrops, and more.

With 2.1, the improvements are more subtle, but some of them—such as dramatically faster Workbench graphics updates and support for file datatypes—will make the upgrade worthwhile. Users of Amigas equipped with the original chip set and graphics cards such as the Picasso II will find 3.1 well worth the money, as it will let them run most OS-legal programs—such as PageStream 3.0, Professional Page 4.1, Final Writer, and SimLife AGA—in 256 colors.

The decision is tougher for Amiga 4000 owners. The 3.1 release does offer some improvements over 3.0, including built-in CD-ROM drive support, more datatypes (including ANIM and CDXL), and new monitor drivers that allow larger overscan values and eliminate black borders in most cases. There are also numerous fixes of subtle bugs.

Amiga 1200 owners can use the disks with Kickstart 3.0, thus taking advantage of many of the improvements, including the new datatypes and CD-ROM driver. But some ROM-based enhancements, such as larger screen sizes, won't be available until someone releases a 3.1 Kickstart designed for the A1200. ■

*Denny Atkin is author of the book **Denny Atkin's Best Amiga Tips and Secrets**. Send suggestions to him via e-mail at [DennyAmiga@aol.com](mailto:DennyAmiga@aol.com), or write to him c/o **AmigaWorld**.*

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# Prime-Time PD

ON-LINE SOURCES FOR FREELY DISTRIBUTABLE SOFTWARE

By Tim Walsh

As the Commodore drama drags on, the online venues continue to hold their impromptu town meetings on the matter. Amiga forums on the nets are the primary locales where issues are discussed, possible scenarios debated, and opinions shared. Such discussions may become heated at times, but they defuse the tension and anxiety by allowing frustrated owners and developers to vent their concerns. Several networks, most notably GENie, have

liquidation, then you're probably also aware of the handy hypertext system, Amiga-Guide, by David Junod. A staple with many users, AmigaGuide serves as an all-purpose text handler, with exemplary online support in the form of accessory files.

AmigaGuide's simplicity masks its power. It works by linking together sets of related documents, which in turn contain references to other documents. When you open a document (either a text file or a database) in the AmigaGuide environment, it displays an Intuition window complete with a scroll bar, interactive buttons, and pull-down menus.

AmigaGuide uses Dynamic Nodes, a hypertext document that's generated in real time for viewing and manipulating. The helpful documentation that accompanies the most recent version (34.11) of the AmigaGuide library and its related files (AmigaGuide v34.3 and AD2AG v39.2) contains sample code for adding an AmigaGuide interface to your own applications, as well as examples of controlling AmigaGuide via ARExx.

There are several PD solutions that help in creating AmigaGuide documents and databases. One is **Hed-dley v1.0**, an editor by Edd Dumbill that uses an Intuition interface and ARExx port to speed the process along. You point-and-click to define buttons on the text, which greatly simplifies the otherwise tedious process. Another is Mike Yaunish's giftware program, **HelpBook v1.0**, which lets

you create AmigaGuide documents without having to learn AmigaGuide programming codes. HelpBook also automatically alphabetizes all buttons—a nice touch.

Another helpful program in the public domain is Stephan Sürken's **Text2-Guide**, recently upgraded to v3.1. As its name implies, this CLI-based program converts text into AmigaGuide format. Its documentation is fairly cryptic, but as long as you know the basics of how the program works and divide your text document into units (separated by dots), it's a fairly straightforward process. Another text-to-AmigaGuide utility is **AmigaGuideWriter v1.03**, a shareware program by David McPaul that reads and writes a variety of AmigaGuide commands. A GUI interface makes it easier to use than Text2Guide.

When you want to reverse the process and convert AmigaGuide files into text files, the freely distributable **Ag2txt** by Jason R. Hulance does the job nicely. The archive consists of two files: Ag2txt13 for AmigaDOS 1.3 holdouts, and Ag2txt20 for 2.0 and later users. The program is written in E, so you'll need to get your hands on an Amiga E compiler if you intend to tweak any of the included source code.

**PrintGuide**, a program by John J. Bolton, lets you print AmigaGuide files by filtering out all the AmigaGuide commands. There's even an AmigaDOS 3.0-or-later AmigaGuide-based **manual browser** by Christian

Stieber that lets you use AmigaGuide to browse through a directory tree. You just click on a directory to enter it and click on a file to view it, all from within AmigaGuide.

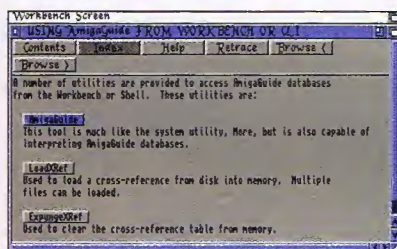
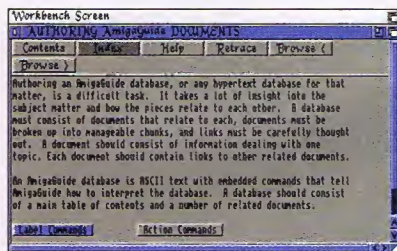
## MORE AMIGA-GUIDE ONLINE

You may have heard of *The Big Dummy's Guide to the Internet*, published by The Electronic Frontier Foundation. Now, two enterprising individuals, Adam Gaffin and Joerg Heitkoetter, have taken it upon themselves to provide us with an AmigaGuide version. While it's not considered an in-depth source of information about the Internet, this version consists of ten files that give a brief—and possibly over-enthusiastic—glimpse of the Internet. Included are tips on using items such as WWW (World Wide Web) and Amiga-specific FAQs (Frequently Asked Questions) that deal with the Internet.

## Network Voice Numbers

BIX  
800/695-4882  
617/354-4137  
CompuServe  
614/457-0802  
800/848-8199  
Delphi  
800/695-4005  
GENie  
800/638-9636  
Portal  
408/973-9111  
800/433-6444 ■

Write to "Prime-Time PD" c/o *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458; or contact Tim through the Internet at "twalsh@bix.com".



**Buttons, sliders, and menus make AmigaGuide extremely easy to use.**

helpfully taken it upon themselves to post the transcript of *AmigaWorld's* hot-line message each time it is updated. Time marches on, and we hope to see a resolution soon.

## GUIDE YOUR WAY

If you've been using your Amiga long enough to know the parent company is in

# Caribbean Multimedia Solutions

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- Comprehensive digital effects
- Digital character generator
- Chroma keying for "Blue Box" effects
- Composite & Y/C input & output
- Freely adjustable data rates
- Optional transcoder for component in/output
- Powerful, easy-to-use MovieShop software features time line & hierarchical editing
- \$1750 for VLab Motion or \$2150 with the Toccata

After early press releases concerning the VLab Motion JPEG Board, CMS application developers knew that the board was the key to a world of new opportunities for our Kiosk Development Environment (KDE). We needed cost-effective video encoding/decoding, non-linear editing, as well as low-cost single-frame recording. VLab Motion promised to do all this while delivering developer support features unavailable or cost-prohibitive on our OS/2, Windows, and Macintosh Systems. Immediately after we installed our first VLab Motion and booted up we realized we'd received much more than we expected. Since then we've learned that at Caribbean Multimedia Solutions, Inc., we can always depend on the Noahji's Customer Support team. **The VLab Motion's excellent video quality and user-friendly and flexible software have been sheer joy.**

— Carlton Cunningham,  
Applications Developer, Caribbean Multimedia Solutions, Inc.

## Noahji's

Also distributing Retina Z-III, Retina Z-II, VLab Y/C, and Toccata 16.

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Voice: 303.499.1975

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# REVIEW

**Full-motion  
JPEG  
video card.**

## **VLAB MOTION**

*MacroSystem; distributed by NoahJi's, \$1750; \$2150 with Toccata sound card*

All Zorro II-slot Amigas.

2.x/3.x compatible.

Hard-drive installable.

Not copy protected.

Accelerator compatible.

*Installation: Easy.*

*Minimum system: 2MB fast RAM, 20+MB hard-drive partition.*

*Recommended system: 68040 accelerator, dedicated 100+MB SCSI hard drive, video input device.*

Even casual observers of the Amiga market have no doubt heard of MacroSystem's JPEG video board, VLab Motion. Coupled with software called MovieShop, it digitizes video in real time for playback from your hard drive.

VLab Motion inputs and outputs S-VHS, CVBS (composite NTSC) or PAL video signals via its RCA and S-VHS DIN connectors. Incoming video loops out and can be viewed and recorded to your hard drive or to videotape. VLab Motion also imports and plays rendered 3-D frames, in some cases eliminating the need for a single-frame controller.

### **JPEG MOTIONS**

The early production version of the VLab Motion package I received crashed frequently. Insufficient documentation (later corrected) led me to believe the problems were due to options and menus not covered in the manual. When maladies persisted, NoahJi's sent another board. Although the new one digitized nicely, playbacks immediately crashed my A4000. I reinstalled the first board, tightened some loose chips, and, whenever it crashed, turned off my Amiga to let it cool down, as the board seemed to be heat-sensitive.

When VLab didn't crash, the A4000's stock IDE drive could sustain a remarkable eight to ten seconds of video playback or recording at 50% JPEG quality, using an 8MB RAM buffer and a 640x480 image. Coupled with a fast SCSI controller and hard drive, the board generates superb footage, with top-notch image quality. I would challenge anyone to distinguish the original footage from VLab Motion's digital-video output at only 50% JPEG quality.

The board operates in YUV (4:2:2) mode, which

allows the software to do color keying of the incoming video, with the video being played back from the hard drive. A duo of U and V color sliders adjust the transparent color. Because it lacks any form of timecode, however, VLab's output doesn't readily lend itself to seamless integration into professional editing systems.

### **BACK AT THE (MOVIE)SHOP**

The included MovieShop software controls VLab and also provides editing functions for creating a Scene—a series of frames. Multiple Scenes constitute a Project, and only one Project can be open at a time. All the Scenes for the current Project are written to a specially formatted hard-drive partition. Opening a new Project reformats the partition, thus creating space for new Scenes. Be careful, though: Unless you've saved the Scenes elsewhere, all stored footage is lost.

You can save the Scenes on the VLab partition to any AmigaDOS storage device as a file—a nice touch. You can then reload any of these Scenes into your current Project, a process that writes the Scene back onto the special VLab partition for playback. In essence, the partition works like a fast-RAM buffer. Because you can store your Scene files anywhere, the only ones that need to reside on the special partition are those in use.

To edit with MovieShop, simply slide through the Scene to the first frame and click the Set Start button. Then slide to the last frame and click Cut, Copy or Delete. You can then slide to any frame and paste the copied footage.

You can export or import the cut or copied footage (or any images you grab with VLab) as IFF Deep, IFF ILBM, PPM, or Sunraster files. I like the simplicity of the editing system.

You can rearrange whole Scenes in any order by using your mouse in the Scenes window (or in the Movie List) to grab their names and move them.

To locate the vendors of the products reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 27.

# WS

Moving is also easily accomplished between the Movie List, the Scene window, and the Clipboard window. Furthermore, you can group Scenes, and even group groups of Scenes a second time into a hierarchy.

## TOCCATA TUNES, TOO

MacroSystem's Toccata 16-bit sound board was included with my package, as the company claims you can create and play back digitized sound with digitized video. I installed Toccata, then tried to back up 200 LightWave frames to DAT tape, using my copy of Ami-Back, but my Amiga would lock up and crash, reporting illegal SCSI phase errors. Suspecting the VLab board, I removed it. Three frustrating days later, still wrestling to back up the files, I removed the Toccata audio board; the Ami-Back problems vanished, and my tape backups operated as smoothly as ever.

When I later reinstalled the Toccata board, I could indeed digitize sound with the video, but the sound output was delayed when played back with the video. This could be attributed to the slow speed of my drives, but regardless of the cause, the machine always locked up midstream.

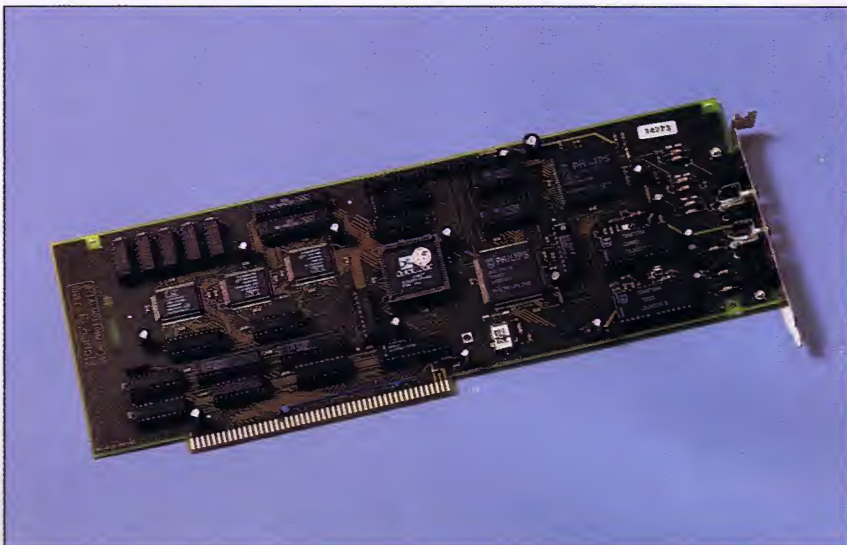
On another note, the MovieShop program supports ARExx, but it neglects to mention this in the manual. There is an option called "FRED list (frames)" in the Import Image window that apparently uses ARExx to handle FRED scripts from Art Department Professional.

## BEST IN CLASS

NoahJi's new MovieShop version 1.2 of the software began shipping just as this review was going to press. With support for editing Toccata audio files together with video, this software breathes new life into VLab Motion with character generation as well as new video special effects.

While VLab Motion is a little rough around the edges, bear in mind that no other computer product on any platform offers digitizing and playback of real-time 30-fps video, with flawless image quality for under \$2000. As a new product, both the software and hardware suffer from some teething problems, but VLab Motion shows enormous potential, and with NoahJi's helpful customer service and quick response to problems, this is a worthwhile video investment.

—Fred Hurteau



## AUDIO EXPANDER

Contraption Industries, \$69.95

All Amigas.

1.x/2.x/3.x compatible.

Hard-drive installable.

Not copy protected.

Accelerator compatible.

Installation: Easy.

Minimum system: 512K.

Recommended system: 1MB, sound utilities, stereo amplifier.

Low-cost Amiga sound-enhancement device.

VLab Motion plugs into any free Zorro slot and converts your Amiga into a JPEG-animation powerhouse.

There's nothing wrong with the Amiga's standard 8-bit stereo sound. It holds its own when compared to some other computers and requires no investment in additional hardware. When you're ready to give Amiga music a little boost, just add a sound card or cartridge—a piece of hardware that improves the sound and provides audio-digitizing capabilities—and the results are usually exemplary.

That raises the next question: Which sound device is right for you? For an alternative to low-cost sound cartridges, consider Contraption Industries' Audio Expander for the Amiga. Not exactly brimming with either technology or options such as sound digitizing, the low-buck Audio Expander is an external box that improves the sound output of your Amiga. It connects using a custom serial-port adapter and requires that you supply your own two-in and two-out phono-jack sound cables.

## CONNECTION DETAILS

Although three disks of software accompany it, this is a stand-alone product: Other than some sound files, no special software is necessary. Getting started involves plugging the Audio Expander's combination serial adapter/power cable into the Amiga's serial port. Right away, two issues arise: One, turn the adapter around and it plugs into the parallel port as readily as it does into the ►

serial port. Second, whenever any device occupies the serial port, I worry that other serial devices may be adversely affected. Thankfully, my external modem connected to the pass-thru end of the Audio Expander remained oblivious to its presence.

In my haste to use the Audio Expander, I inadvertently plugged its serial adapter into the parallel port and the printer cable into the adapter's pass-thru. The unit's red activity light didn't illuminate, indicating all was not well. Fortunately, no fireworks resulted and nothing was the worse for wear.

With the serial adapter in the proper port, I connected the ends of two phono cables to the Amiga's left and right audio-output jacks and the other ends to the audio-in jacks on the Audio Expander. The unit's two outputs were routed into an amplifier, in this case an old Quasar boombox reserved for beach days and just such occasions.

Because the output is boosted a fair amount over stock, you should heed Contraption Industries' advice not to use a monitor. While they seem to work well, monitor speakers can't handle the boosted wattage from the Audio Expander. A 15-watt or higher boom box or an old stereo receiver works wonders.

### BEAUTIFUL MUSIC

Once you've made all the connections correctly, you're ready to put the unit to the test. Left- and right-gain controls on the front let you adjust the amount of output on the two channels. For best results, I found that less truly is more; i.e., the lower the gain, the better the sound quality.

The three accompanying disks provide some MOD-format music modules for testing the Audio Expander's sound output. A digitized Elvis parody, where he's singing his favorite song as if he forgot the words, is particularly entertaining. The sound quality is improved quite a bit, with powerful bass and note clarity.

On the negative side, the first unit I received arrived sans any documentation (the two-page manual arrived later), which accounts for the mistake I made in connecting the unit to the wrong port. A sticker on the serial adapter itself with connection instructions would help.

Your favorite MODs, games, music, and system beeps get a powerful boost that's sure to anger every parent in the household. The sound is clear and crisp, providing an improvement over the stock audio output. 'Tis the season to be holiday gift shopping, so you might want to consider this inexpensive, useful little device for the Amiga enthusiast on your list.

—Tim Walsh

## TYPESMITH 2.5

Soft-Logik Publishing, \$199.95

All Amigas.

2.x/3.x compatible.

Hard-drive installable.

Not copy protected.

Accelerator compatible.

Minimum system: 2MB.

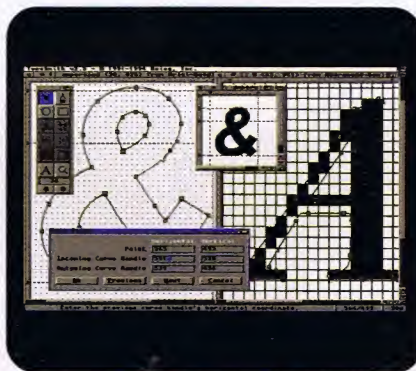
Recommended system: 68020 or faster processor, multisync monitor, hard drive, 2MB chip RAM, PostScript laser printer.

Font-design and-management software.

TypeSmith 2.5 is the latest incarnation of the sole commercial font-management package for the Amiga. A most useful tool in any Amiga graphics-artist's grab bag, TypeSmith 2.5 provides some of the features most often requested by users of the original package.

### NEW FONTS

The big news is that 2.5 includes new Mac and PC TrueType font support. Another new format is TypeSmith IFF RFF, designed for use in creating your fonts. Continually saving and reloading



TypeSmith 2.5's work area is logically arranged.

in CompuGraphic or TrueType formats is slow and can double the number of points used in each character. Using IFF RFF format eliminates this problem.

Converting fonts from one format to another can add points as well. Some fonts have so many points and are so complex that many programs can't print them. The new Reduce Points feature, which replaces the ARExx macro of 2.0, eliminates excess points. TypeSmith 2.5 also lets you convert whole directories from any combination of supported formats to any other format through an included ARExx macro. Though the feature works as promised, it can be a tad

slow. As it works unassisted, however, you can set it up to convert a large directory while you sleep.

### NEW PATHS

Another new feature prints complete character sets. Selecting Print Preview from the Project menu in the Overview panel dumps an entire character set to your printer, complete with ascii character labels. In addition, you can now edit the actual character names. Whereas some large-scale fonts were originally designed in em-squares too large for earlier versions of TypeSmith to load, 2.5 now scales such fonts to fit in its em-square without any loss of image quality.

In some fonts, correcting the path direction for character fills used to be a painful process involving the Clockwise and Counterclockwise commands. Now, the Correct Path menu items perform this automatically for a single character or a complete font. TypeSmith 2.5 also offers a global control over the "blue zones" of PostScript fonts, and the hinting algorithms for all of the other formats have been improved. You can select between PFB and ASE encoding when saving a PostScript font.

### OTHER IMPROVEMENTS

TypeSmith 2.5 includes a utility for converting ProDraw structured drawings into the IFF DR2D format that TypeSmith recognizes. Also, the online help system works on any Amiga with 2.04 or later. Just hit the Help button on the keyboard to access it. If you have AmigaDOS 3.0 or later, the help system displays the file corresponding to the location of the mouse and offers status-panel prompts at the bottom of the screen. Otherwise, you get the main help screen and have to select the appropriate item.

You can now change the composition of many characters using the Next and Previous buttons from within the Edit Compositions window without having to close the window each time to select a different character.

You can import both PostScript PFA and the more common PFB files. Since Final Writer converts NimbusQ files to PostScript PFA files, TypeSmith 2.5 now lets you convert NimbusQ fonts to PostScript fonts and, from there, to the other supported font formats.

Despite improvements, you still cannot use the PostScript driver included with AmigaDOS 2.x. Most programs don't seem to have a problem with the admittedly quirky driver from Commodore, but TypeSmith 2.5 still trashes the system if you attempt to use it.

Continued on p. 42.

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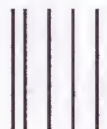
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## **What the Press has to say about the WarpEngine4000:**

### **Video Toaster User**

*"LightWave modelers and animators should make the WarpEngine an immediate addition to their system. Even Raptor owners will benefit from the faster response of both the modeler and layout screens. MSD boasts that the WarpEngine's SCSI-2 is the Fastest available...and I found their claim to be justified...Bursts of 9MB/s with my Barracuda drive and sustained rates of 6MB/s."*

Tim Doherty - VTU, Oct. 1994.

### **AmigaFormat Gold Award**

*"The Hottest piece of silicon he's ever stuck in an A4000... The efficient DMA design means the CPU doesn't have to constantly deal with the data transfers, so it's ideal for situations which need both processing power and fast data throughput, such as animation."*

John Kennedy - AmigaFormat, Sept. 1994.

### **Amiga Computing Blue Chip Award.**

*"Although there are a number of acceleration systems for the A4000 and A3000 this is far and away the best yet. The WarpEngine provides jaw dropping performance. The fastest all round acceleration and data transfer system on the Amiga."*

Paul Austin - Amiga Computing, Nov. 1994.



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### **AmigaWorld**

*"I cannot give the G-Force 040 an enthusiastic recommendation" "It offers no SCSI-2 controller, and limited memory-upgrade options when compared to the WarpEngine."*

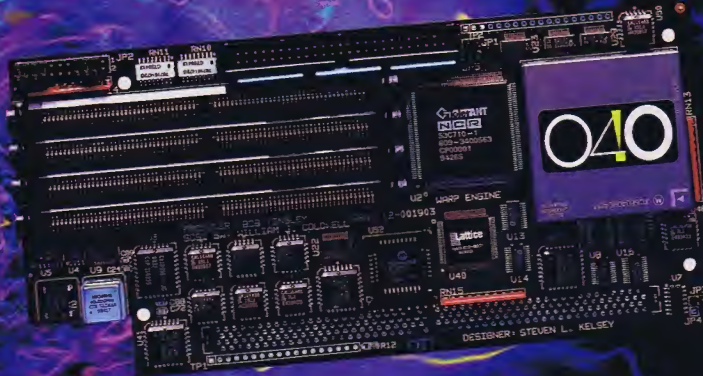
Sheldon Leemon - AmigaWorld, Sept. 1994.

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# *The Amiga Owner's Holiday Gift Guide*



*Looking for a gift idea for your favorite Amiga user?  
Or maybe just shopping for yourself on a tight budget? Well,  
check out our economy-minded guide to a wide assortment of  
Amiga products priced under \$200.*

**By Sheldon Leemon**

**A**mong their other virtues, Amiga computer owners are extremely easy to shop for. Computers always seem to need a new piece of software, some hardware enhancement, or that absolutely necessary accessory. Since Amiga products come in all price ranges—from a two-dollar mousepad to a two-thousand-dollar Video Toaster board—it's pretty easy to find a gift that will be appreciated.

We're sticking to the lower end of the price spectrum to help you find something that's affordable as well as useful (almost all of our gift suggestions are under \$200, with most \$100 or less), but you'd be surprised at how much is available to the budget-conscious shopper. Prices of computer

peripherals and other products have fallen dramatically during the past twelve months, which means that this year your gift dollar will go further than ever before.

While some items listed in the guide are quoted at the manufacturer's suggested retail price, others reflect "street-price" costs and require some fairly easy comparative shopping among local dealers, mail-order houses, or other equipment sources.

The developers of all products in the guide are included in the text; to contact them, consult the "Manufacturers'/Distributors' Addresses" list on p. 27. Mail-order outlets for Amiga products can be found in advertisements in *AmigaWorld* and other Amiga magazines. ►

## Hardware Upgrades

Many of the most startling price reductions have come in this category. If you've checked in the past on the price of adding, say, more memory, a larger hard drive, or a faster modem and found them too expensive, it may be time to check again. Many items you may have considered extravagant before might suddenly seem more practical now.

### MEMORY UPGRADES

Is your favorite Amiga owner still struggling with one or two megabytes of RAM? These days, RAM is selling for about \$40 to \$50 per megabyte. That means you can add four megabytes to a system such as the A3000 or A4000, both of which have sockets for additional chips, for well under \$200. Even if you have a machine like the A1200, which doesn't have sockets for additional RAM, you can find expansion boards like **DKB's DKB 1202** and **Paravision's 1200Z** for a little over \$100 without RAM, and well under \$200 with a megabyte of RAM. In fact, you can buy the **DKB 1228** accelerator board, which adds a 28-MHz 68030 processor as well as RAM sockets for under \$200. Most A2000 and A500 RAM cards are



**Paravision 1200Z**

still available, and they are more affordable than ever. **GVP's A4008** card for the A2000, for example, provides both a SCSI drive interface and RAM expansion for about \$150, while **Expansion System's DataFlyer** RAM card sells for under \$200 with 2MB of RAM. For A2000 and A500 owners who need more chip RAM, **DKB** still sells the **MegAChip** board, which adds a megabyte of graphics memory for under \$200.



**GVP A4008**

### HARD DRIVES

Most of the original Amiga hard drives were in the 40–100MB range, but these days large hard drives are so cheap that it is almost impossible to find one that small! With 500-megabyte IDE and SCSI drives selling in the \$300 price range, I've seen some good closeout values on 300-meg drives for around \$200, and you may still find 40–100MB drives for as low as \$100. That spells an inexpensive storage bonanza for Amiga computers that come with a hard-drive controller (such as the A600, A1200, A3000, and A4000). For models that don't (like the A2000 or A500), it shouldn't take more than about \$150 or so to add a controller such as **Expansion System's DataFlyer** SCSI or IDE, or **GVP's A4008**, mentioned above.

### PRINTERS

Not too many years ago, the least expensive 9-pin dot-matrix printer would set you back almost \$300. Lately, however, such printers as the **Panasonic KXP-1150** and **Star NX-1001** have been selling in the \$120 range, with sale prices dipping below \$100. These days, no Amiga owner need exist without a printer. If you are willing to spend between \$150–200, the choices expand rapidly. You can move up to a 24-pin dot-matrix printer like the **Panasonic KXP-1123** (with the option to add color later on) or a laser-quality inkjet printer such as the **Epson Stylus 300**. (Don't expect, however, to find a color inkjet printer like the Cannon BJ-4000, or a laser printer like the Oki-data 400, for much less than \$500.)

### MODEMS

With so much media attention focused on the "information superhighway," many computer owners want to find out

what all the fuss is about. Multifunction modems make a great gift because not only do they open the door to bulletin boards, information services, and the Internet, but they also function as high-speed fax machines. Last year, an external 14,400-bps modem with fax capabilities cost almost \$300. Currently, however, name-brand models from companies such as **Hayes**, **US Robotics**, and **Supra** (such as the **144LC**) are selling in the \$140 price range, and you may be able to find lesser-known brands for under \$125. Even if you spring for fax software (which is currently in the \$60 range), your entire purchase will remain well below \$200.



**SupraFAXmodem 144LC**

### HIGH-DENSITY FLOPPY DRIVES

Although high-density 3.5-inch floppy drives have been the computer-industry standard for a couple of years now, only the Amiga 4000 comes with them as standard equipment. You can remedy this situation, however, with the gift of a high-density floppy drive. **DKB** sells external high-density drives for all Amiga models, and internal drives for the A2000, A3000, and A4000, for under \$150. In addition to doubling your floppy storage capacity (to 1.76MB per disk), these drives allow your emulator programs to read and write IBM and Macintosh high-density floppy disks, making them an absolute necessity for those who wish to exchange data between the Amiga and other computers.

### CD-ROM DRIVES

CD-ROM drives are becoming more and more popular on the Amiga as a way of distributing mass quantities of software and data for a very low price.

While the newest triple-speed and quad-speed drives cost upwards of \$300, older single- and double-speed drives have really dropped in price. About the only thing these drives won't do well is to play movies off of the CD. Since there are almost no programs for the Amiga that do that anyway, what is a liability in the IBM world is a buying opportunity for Amiga owners and their cost-conscious friends. I personally use a single-speed **NEC CDR-25** drive and am quite satisfied with its performance. These drives (and other single-speed models) are currently selling in the \$125 price range, and I've seen external SCSI CD-ROM drives at computer shows for as little as \$70. In fact, at least one mail-order house offers the NEC drive with Amiga driver soft-



**DKB Power XL High-Density Drive**

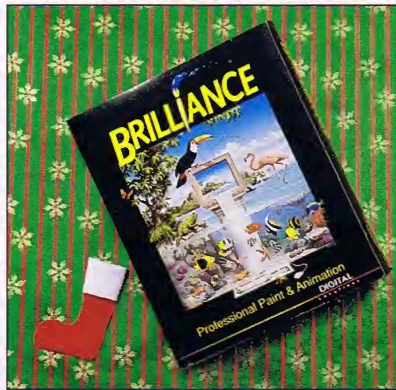
ware and a couple of CDs for \$130. For an Amiga owner whose computer already has a SCSI interface, that's a gift bargain almost too good to pass up.

#### AUDIO DIGITIZERS

Every Amiga has the capability of playing back high-quality digital sound effects and music. In order to record them, however, you need an audio digitizer, an interface that allows you to plug in a microphone or stereo system. These handy little gadgets have never cost much more than \$100, but lately, prices have dropped even further. You can pick up **GVP's DSS8+** for about \$70 or **Oregon Research's Megalosound** for only \$40. Both include the software needed to record sounds on the Amiga.

#### Software Galore

There are many great bargains on the software side of the scale, too. Software of all kinds—from



**Digital Creations' Brilliance 2.0**

operating-system upgrades to graphics and productivity programs to CD-ROM collections—is available at very attractive prices.

#### WORKBENCH 3.1 UPGRADE

When Workbench 3.0 first came out, it was available only for the A1200 and A4000. By early '94, however, Commodore had completed a 3.1 version that lets owners of most Amigas upgrade to the latest operating-system version. **Expert Services** obtained a license to distribute this upgrade, and is selling complete kits that include a new Kickstart ROM, Workbench disks, and manuals. Pricing for the A500/2000 version is \$125, while the A3000/4000 version sells for \$150.

**Software Hut** also provides 3.1 upgrades, with packages for the A500/2000 at \$159.95 and the A3000/4000 at \$179.95.

#### APPLICATIONS SOFTWARE

Graphics software has always been popular on the Amiga, and now there are a couple of outstanding values in that category. **Black Belt System's Imagemaster R/t**, widely acclaimed for its powerful image-processing functions, is available for about \$70. **Digital Creations' Brilliance** provides a powerful alternative to long-time paint and animation champ **DeluxePaint**, and, with the recently released version 2.0 priced at under \$80, this powerful package is about 40% less expensive.

One category of software that scores big during the holidays is genealogy software. All those family get-togethers probably stir an urge to find out just how all of those people are related. **Norris Software's Norgen** program is the low-cost leader at about \$50, while **MVP's Your Family Tree**, for about \$80, offers optional GEDCOM support.

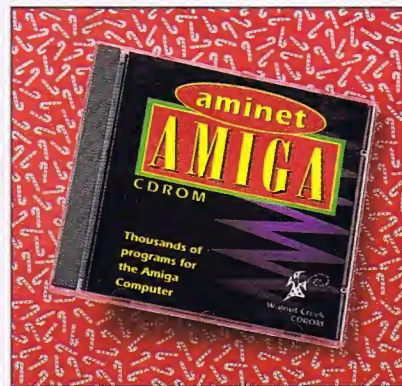
Personal-record-keeping software also goes down well around New Year's, as computer owners make resolutions to become more organized. **Checks & Balances** from **AmiSoft** promises to keep its owner's finances in balance, and, at about \$40, is kind to the gift-giver's checkbook, as well. **Legendary Design Technologies' Address It!** (also about \$40) manages all the names and addresses you can throw at it and produces mailing lists and labels in many formats. Know somebody with a yen for home improvement? **HomeBuilders CAD** from **DevWare** is a mere \$35.

#### AND FOR A REAL SAVER...

The holidays are also a time for programs that don't do a lot, but are a lot of fun. Screen savers fall into that category, and one of the newest ones is **Desktop Magic**, a \$30 animated screen saver and sound manager from **MediaDesk**. It not only comes with a number of customizable screen modules, but it also allows you to assign sound effects or music tracks to system events such as inserting or ejecting a disk.

#### CD-ROM COLLECTIONS

For the biggest software bonanza, look to the many software collections on CD-ROM. **Walnut Creek's Aminet Amiga CD-ROM** at \$25 (a collection of freely distributable software from the Internet) and the **Fred Fish Collection** (available from **HyperMedia Concepts** for \$75) are two outstanding software libraries available in that format. Each volume contains literally thousands of the best noncommercial games, utilities, and applications programs. For the avid game fan, the **Lock-n-Load** disc from **Northwest** ▶



**Aminet Amiga CD-ROM**

**Public Domain** (about \$20) has almost every freely distributable game you can think of. For the demo enthusiast, the **Euroscene** and **Demo** CDs are loaded with flashy animations and wild music.

If you know an Amiga owner who is interested in music, the **Ultimate MOD Collection CD** from **Sunset Productions** (about \$25) includes more than 700 songs. For the 3-D enthusiast, **Syndesis** has come out with a second **3D ROM** disc filled with non-commercial 3-D objects in a wide variety of formats, and it has dropped the price of both the first and second discs to \$100 each.

### A Holiday Miscellany

Looking for a lower-priced gift? There's a multitude of small accessories that won't set you back a lot but are still useful—or at least fun.

#### OF MICE AND MOUSE ACCESSORIES

In addition to spawning a lot of bad jokes, the computer mouse has also inspired an entire industry. There are replacement mice in the \$20–30 range, including **Alpha Data's Mega Mouse** and **Micro R&D's Pyramid Swiftly**. Or try a mouse substitute, such as **Alpha Data's Crystal Trackball** (about \$50). There are also switch boxes that allow you to plug in your mouse and joystick at the same time (the **Alpha Data** automatic switch is about \$20).

How about accessories for accessories? **Staticide** makes a mouse-cleaning kit for about \$11, and you can also get a mouse holder for about \$5. There are even covers that allow you to disguise your mouse's appearance—from the **ACI Mouse House** (about \$5), which makes it look like an actual felt rodent, to the **Auto Mouse** (\$15), which converts it into a model Corvette. A mousepad, too, makes an inexpensive but useful gift. On a recent trip through computer chain stores, I turned up a couple of dozen types—from a \$2 plain pad to a \$4 pad with my college logo on it, and all the way to a deluxe \$14 Star Trek model.

#### SAFE AND CLEAN

Since computers hate dirt, there are lots of cleaning products to consider, from a \$6 floppy-head cleaning kit to a \$20 battery-operated vacuum cleaner. Or



Commodore Who?

you can avoid dirt with a plastic dust cover, ranging in price from a \$5 generic square model to more expensive custom jobs like the **Safeskin** (**Merritt Computer Products**) covers made especially for Amiga keyboards (under \$20).

Another popular item is the surge protector, which ranges in price from a \$7 basic model to a \$29 deluxe model with phone-line protection for a modem. For the security minded, there are disk-drive lock kits (under \$20), while the environmentally concerned can be satisfied with a solar-calculator disk for just a couple of bucks.

#### READING AND WATCHING

Books, magazines, and videos always make welcome gifts. Former Commodore networking guru Dale Larson has just published a new book entitled **Connect Your Amiga! A Guide to the Internet, LANs, BBSs and Online Services** (\$25, **Intangible Assets Manufacturing**). For ARexx programmers, there's Merril Callaway's **ARexx Cookbook** (\$50, **Whitestone**). You can even get a signed copy of the **AmigaDOS Reference Guide**, covering all AmigaDOS versions up to 3.0, directly from the author (me), for \$12 postpaid—less than half of the cover price (170 W. 12 Mile Road, Madison Hts, MI 48071). And just about any Amiga owner would appreciate a gift of one of the British disk/magazines. Titles like **Amiga Format**, **C.U. Amiga**, **Amiga User International**, and **Amiga Computing**, complete with a disk or two of software, are available on many of the larger US newsstands or from mail-order houses for about \$10.

For under \$20, **DevWare** distributes TechMedia's **History of the Amiga**, which takes a nostalgic look at the machine's

beginnings almost a decade ago, as well as **Amiga Animation, Volumes 1 and 2**, which demonstrate how the art of animation has progressed on our favorite machine. **TechMedia's** own **AmigaAnimations** video (with results from **AmigaWorld's** third annual animation contest) is available directly from the publisher for \$19.95. For the Video Toaster owner, try a tape from **Desktop Images'** library of instructional videos (\$50 each).

#### AND TO ALL A GOOD NIGHT . . .

Looking to make a fashion statement? A propeller beanie from **Interstellar Propeller** (\$6) identifies its proud owner as an official Computer Nerd. Or how about an official Amiga Wake T-Shirt from the Commodore engineering staff's official goodbye party (\$19.95, **Obvious Implementations**)? You can let the world know that the



You can get there anyway, Scotty!

Amiga spirit lives on, even while the legal status of the machine is still in limbo. (Also, the **Deathbed Vigil**, the video, has just become available from **Intangible Assets Manufacturing**, \$35, PAL; \$40, NTSC.)

Whatever the inclinations of your friends, a computer-related gift is certain to be used and enjoyed. As any Amiga owner can tell you, a CD-ROM fills a stocking much more nicely than a lump of coal any day! ■

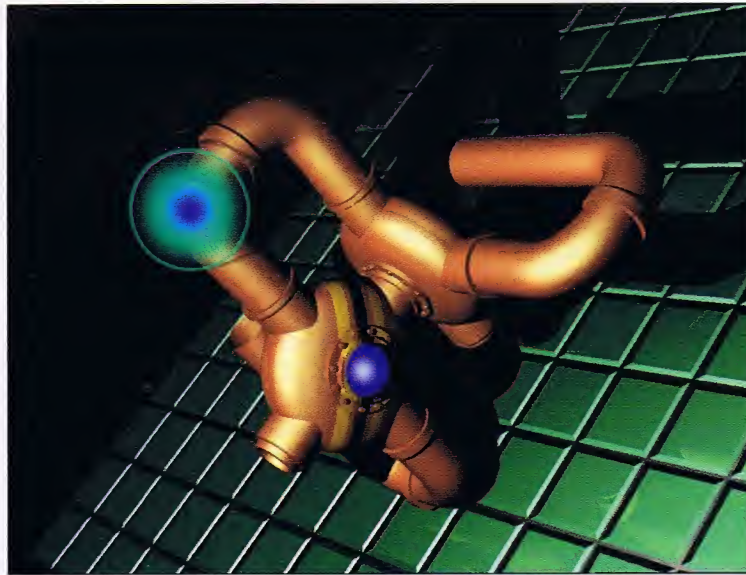
*Sheldon Leemon, a computer/video consultant and instructor, is the author of two books and scores of articles covering the Amiga. He also serves as Amiga Forum Manager on National Videotex Network. Write to him c/o AmigaWorld, Editorial Dept., PO Box 802, 80 Elm St. Peterborough, NH 03458-0802.*

# Teaching Imagine *Some New Tricks*

*IMPULSE'S 3.0 VERSION OF IMAGINE IS OUT, AND IT SPORTS SOME ELEGANT NEW FEATURES.*

*HERE'S A TUTORIAL THAT LEADS YOU THROUGH SOME OF THE  
INNOVATIVE, STATE-OF-THE-ART PRESTIDIGITATIONS OF THIS POWERFUL PROGRAM.*

By Steve Worley



A few rare pieces of software have a certain quality that instills a sense of wonder in their users. The program might be tricky to use or have quirky behavior, but it rewards those who persevere with a sense of accomplishment. Impulse's Imagine is this kind of program. Its three-dimensional modeling and rendering capabilities have evolved over the years, gathering a loyal following of artists and animators. This evolutionary process has now produced the long-awaited version 3.0.

## **MAGICAL STATES**

While the entire program was reviewed in the Sept. '94 issue (p. 18), it may be useful here to examine in depth some of the new features and see how they work. These new abilities are proudly termed Imagine's new "magic" features, but, as in mastering any new sleight-

of-hand move, it takes knowledge and practice to make it all seem effortless.

New methods to deform and texture objects dominate the list of changes in this newest release. This most impressive new conjuration is the development of a feature called "States." Previously, Imagine tended to manipulate a 3-D object as a static model with a painted surface; polygons defined a rigid structure, and most animation was performed by linking these rigid forms together with joints. This was adequate for many types of mechanical motion, but for liquid, organic movement, a different animation method was sorely needed. States represents Impulse's solution to part of this problem; it allows you to change a model's structure and appearance in ways that were formerly difficult or impossible for Imagine to do. ►

Specifically, States provides you with the ability to create basically different configurations, or "poses," of the same object. This might be as simple as two versions of a fishing rod, one straight and another bent. The two "states" of the rod are stored in a single file, and during rendering and animation you can choose which you want shown. You can also define animated transitions between states. Simply changing the state over time would create an animated bend in the fishing rod.

A state not only describes the object's geometry (the shape of its surface), but can also define the way its sub-objects are assembled. Some objects are hierarchical, with a variety of sub-parts, and States can define the position, orientation, and size of each of these elements. This allows for animated changes such as the rotation of the crank on the reel attached to the fishing rod. In this case, the *shape* of the crank does not change; it just rotates without any deformation. States can describe *both* kinds of change, either independently or simultaneously.

### REALIZING THE ILLUSION

Another aspect of States is perhaps even more important. This new Imagine feature allows what is usually known as "texture tacking." When a material object changes shape, its surface obviously must move with the bend or distortion. When certain surface attributes, such as a texture or image, are mapped onto an object, it is essential for these to move with any alteration of the surface in order to preserve the viewer's illusion that the object is real, and not just a computer construct. Seeing bamboo knots spaced along the surface of the fishing rod, for example, helps convince you that you're seeing a bent rod and not a melting bar of plastic.

Texture tacking is cleverly integrated into the States paradigm. Because an object remembers different versions of its state, it can use one to define its geometry, but can refer to another when specifying its surface features. For example, it is easy for Imagine to add the bamboo knots to the fishing rod when it is straight; it's a standard surface effect (a cylindrical image wrapped

about a long, narrow cylinder). It can then use its knowledge of the correspondence between different states to render the surface features in a way that's consistent with the original definition. Imagine must render each small area of the bent rod by asking itself, "Where is this same area on the straight version of the rod? Now what color is that corresponding area on the straight rod? I'll color this little part of the bent rod the same way."

### FLAPPING FLAGS

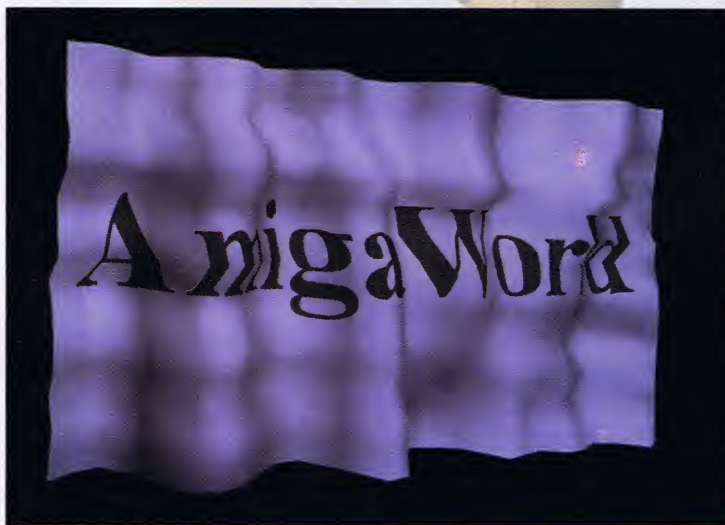
In practice, it is not difficult to use this wonderful feature. By applying surface features in one state (often the simplest configuration), you can change the object geometry any way you like, and the surface appearance will remain consistent. A useful example that is easy to perform is the appearance of a rippled flag. It is trivial to make a "perfect" flag: Merely use an image map to apply a logo or graphic to a simple rectangle. It is also easy to add ripples or waves to the flag fabric, but without texture tacking the image won't follow along, and the effect looks wrong.

The new version of Imagine enables you easily to achieve a convincingly real effect. Imagine defines deformations and surface attributes in its Detail editor. Building the flat flag is very easy, as the program has a set of primitives that include a flat rectangle made of many small triangles. This is exactly what you want, since the small triangles let you bend the surface to make the ripples in the fabric.

To produce the basic flat flag, you use the Add Primitive menu command to tell Imagine to build an object with the properties you want. A plane of size 150x100 with 30x20 segments produces the desired rectangular shape. Mapping this with a logo image (or whatever you like) is also very easy (and identical to the way previous versions did it). Just enter the Attribute requester and add an image map (specifying your image filename). Imagine's default image options happen to be exactly what you need in this case; the program colors the surface of the flag and even autosizes the image to fit neatly over the full surface. You can then use Imagine's Quickrender routine to preview the object and make sure the basic setup is correct.

Now think of this basic object as the "main" state of the flag. In adding ripples to the flag, you want to make sure Imagine looks at the flag *as it is currently defined* when it colors the surface, even when the fabric is later wrinkled. By selecting the option labeled "States...Create" on the States menu, you tell Imagine that the current pose is one it should remember, as there will be reference to it later. Imagine asks what information the state should store; you can have it remember the object geometry, the surface appearance, or the hierarchical pose. You want it to remember the shape and appearance, so you select the first two options. Imagine also asks for a name for the state (you might call it "Main").

Once a state is defined and labeled, you can tell Imagine to refer to that state by name when applying the image to the flag. This is easy to do. By going back to the attribute requester, you can select the applied image and click on the Info button to view (and edit) its definition. A field in this requester labeled Lock State instructs the program to use a saved state (like that you just defined and called Main) on which to base the surface attributes. By simply typing "Main"



Imagine's texture-tacking feature lends realism to the image of the rippling flag.

into this field, you instruct Imagine always to tack the surface attributes to the object, even when the geometry is manipulated.

### MAKING IT FLY

Now that you have the basic state saved and Imagine knows to use it for the applied image map, you need to make the rippled version of the flag. There are several ways to do this—all of them equally correct. Anything is allowed in manipulating the shape of the object as long as it doesn't add or remove points to or from the object. You can manually change the position of vertices, use built-in functions to taper, twist, or shear the object, or use a new feature called Appliqué, which can be quite useful for certain kinds of deformations.

The Appliqué function lets you use an image map to perturb the surface of an object, the grayscale of the image determining the amount of perturbation. To make the ripples for the flag, I used a paint program to draw some irregular gray stripes with very soft gradients in between. Drawing the "height" of the ripples in a paint program is a lot easier than manually moving vertices in Imagine's editors. Luckily, the Appliqué function is simple to use; there are several controls (defining the mapping Imagine uses), but, as with the logo image previously added to the flag, the default values Imagine defines are perfect for this application.

Imagine has to think for a few moments (and read

the image from disk), but then a waved variant of the flat flag is produced. Again, anything you do to change the shape of your object is fine; Imagine offers a slew of manipulation methods, from magnetism to jittering, and all will work. The beauty of using States is that any shape changes you make to the geometry are acceptable, for Imagine remembers the state that it will need to properly map the surface.

Surprisingly, this is all that's necessary to produce the final flag. When you defined the Main state, Imagine was told all that was needed in order to produce the correct output. You can use Imagine's Quick-render function to preview your surface.

Imagine's abilities have been refined in the 3.0 release, and the addition of States is just one of several enhancements. The evolution of this software continues, polishing the program with each iteration. Imagine dominates the hobbyist niche of 3-D graphics on the Amiga, and with the addition of new features such as States, it compares favorably in many respects even to LightWave 3D. Even more promising, Impulse has begun a new policy of quarterly software updates, which promises a regular supply of new magic. ■

*Steven Worley is president of Apex Software and author of the popular book **Understanding Imagine 2.0**. Contact him c/o Apex at 405 El Camino Real, Suite 121, Menlo Park, CA 94025, or via e-mail: [spworley@netcom.com](mailto:spworley@netcom.com).*

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# Applying The

## *Final Writer*

Word Processor for the Amiga™



from SoftWood, Inc.

# "Final" Touch



*The latest release of the leading Amiga word processor sports a host of impressive new features (see sidebar for details)—some of which make Final Writer 2 the rival of many full-fledged desktop-publishing programs. Here's a hands-on DTP newsletter project to help prove the point.*

"MORE THAN JUST a word processor" is a description that has always characterized Softwood's Final Writer. With its ability to create multiple-column documents—complete with pictures, indexes, paragraph styles, and many other elements—it approaches the power and flexibility of many Amiga desktop-publishing programs. Following the release of version 2 earlier this year, Final Writer has staked an even greater claim to that "more than" cachet when it comes to DTP capabilities. (For a rundown of some of the new features in release 2, see the sidebar mini-review on p. 25.)

Although the newsletter project outlined in this tutorial will work with any version of Final Writer, it was specifically designed with release 2 in mind. If you have an earlier version, some of the operations covered in the tutorial may not function properly. Also, while this tutorial will work with any Amiga having at least 2MB of RAM, if you're using an Amiga with *only* 2MB, you may have to run Final Writer in a lower resolution with fewer colors in order to access all the features mentioned here. In addition, the project assumes that you've installed all the fonts and clip art supplied on the Final Writer distribution disks. If you have access to CompuServe or GEnie, you can download the files used to create this newsletter and employ them in conjunction with the tutorial. If you don't have access to either of these services, you can still substitute a few generic text files of your own creation.

Now for our sample project: We'll use Final Writer's tools to create a simple four-page newsletter for a fictional company, Cheyne's Nautical Supplies. Mr. Cheyne distributes a monthly newsletter to all of his customers, informing them of sales, promotions, and other new information. The purpose of the tutorial is not to fashion this particular newsletter in its entirety, but to give you a solid understanding of how to create

any newsletter or other multicolumn publication using Final Writer. That said, feel free to improvise and change the newsletter as you wish.

## **LAYING THE FOUNDATION: MASTER PAGES AND PARAGRAPH STYLES**

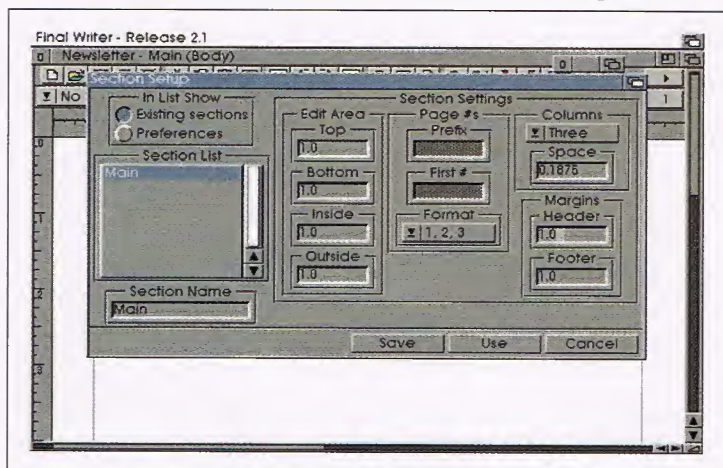
Start Final Writer, and when the program has finished loading, select the View | Paragraph Strip | Font/Style Strip menu option. This will replace the standard Final Writer tool strip with the new Font/Style strip. Next, turn on the following program options: View | Show Tool Palette, View | Rulers | Top and Left, View | Page Guides | Header/Footer, View | Page Guides | Columns and View | Page Guides | Edit Area. Once you've selected all these options, save your document under the name "NEWSLETTER."

After you've saved your work, select the Layout | Page . . . menu option. In the Page Setup requester that appears, click the Pages: Right Only button until it reads Left/Right. This will give you different right and left master pages for the newsletter. Return to the document window by clicking Save. Next, select the Layout | Section . . . menu option. From the Section Setup requester that appears, change the columns selection from one to three, then enter a value of 1.0 in both the Header and Footer fields underneath the Margins heading. Check Figure 1 to see what the Section Setup requester should now look like. If everything appears okay, click Save to store the settings and return to the main document window. You have just created your master pages, and now it's on to paragraph styles.

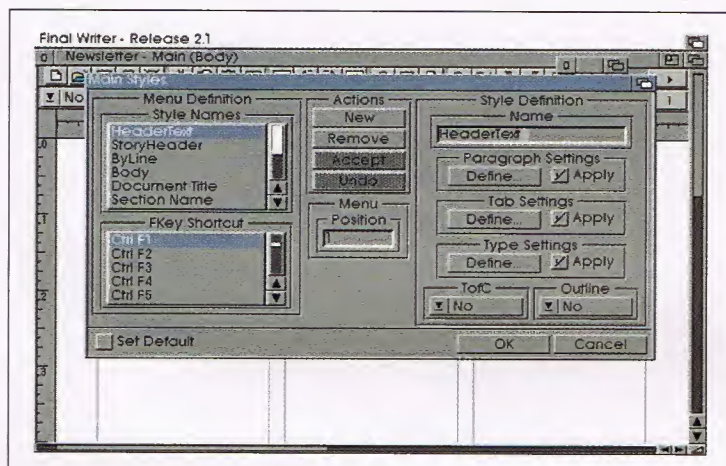
Paragraph styles make it extremely easy to format large amounts of text. To create paragraph styles, select the Layout | DefineStyle | Main . . . menu option. In the Main Styles requester that appears, click New, as ►

By Jeff James

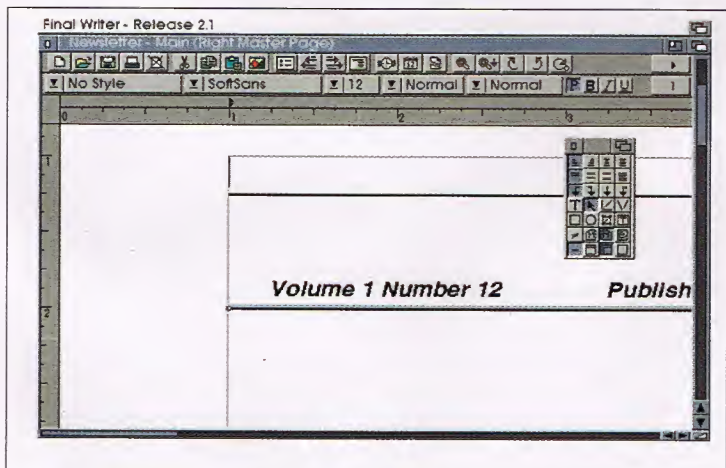
you'll be creating a new paragraph style. To define the attributes of your style, go to the boxed area entitled Style Definition on the right side of the requester. First,



**Figure 1.** Use the Page Setup and Section Setup (above) requesters to create your master pages.



**Figure 2.** Final Writer's "paragraph styles" feature is one of the program's most powerful DTP tools.



**Figure 3.** Headers are a snap with Final Writer's simple tools for editing master pages.

type the name HeaderText into the Name edit field. Next, select the Define Type Settings button to bring up the Type Specs requester. Here, click the Select . . . button to bring up the Select Font requester. From the file list displayed, select the font SoftSans\_BoldItalic, which is found in the FinalWriter/FWFonts/SWOLFonts directory. Enter a value of 10 points into the Size field, then accept the rest of the type-specification settings by clicking OK.

Returning to the Main Styles requester, select CTRL F1 as the FKey shortcut for this style, then enter a value of 1 into the Menu Position edit field. Click Accept to save the paragraph style you have just created. Figure 2 shows what the Main Styles requester should now look like. Now that you know how to create paragraph styles, create three more styles following the same procedure outlined above, using the following style names and values. Remember to click Accept after entering data on each of these paragraph styles.

Style Name: StoryHeader  
Typeface: SoftSans\_BoldItalic  
Size: 14 points  
FKey: CTRL F2  
Menu position: 2

Style Name: ByLine  
Typeface: SoftSans  
Size: 10 points  
FKey: CTRL F3  
Menu position: 3

Style Name: Body  
Typeface: SoftSerif  
Size: 10 points  
FKey: CTRL F4  
Menu position: 4

## HEADERS, FOOTERS, AND MASTHEAD

Click the right Master Page button in the tool palette to begin editing the right master page. Once the master page appears, point and click in the boxed area at the top of the screen—the header. Select the Text tool from the tool palette and then type the following text, inserting a tab when the [TAB] symbol appears: Volume 1 Number 12 [TAB] [TAB] Published by Cheyne Nautical Supplies [TAB] December 1994. After doing so, highlight the text with your mouse and then select the HeaderText style from the Font/Style strip. The text will change to match the specifications of the selected style. With the text still highlighted, click the Center Text tool in the tool palette.

Now draw a few lines to accent the text. Select the Graphics | Settings | Lines . . . menu option. In the Line Settings requester that appears, select a black line with a thickness of 1 point and then click OK to return to the main document window. Using the left and top rulers as your guide, select the Horizontal Line button—located on the tool palette—to draw a continuous line starting 1.25 inches down the page at the left margin, and continuing across to the 7.5-inch mark on the top ruler. This line should stretch from the left margin to the right margin. Now create another line just under the text. Move the cursor

down the page to the 2-inch mark at the left margin, and then draw the line so that it is parallel to the line we created earlier and ends at the same location. (See Figure 3 for these results.)

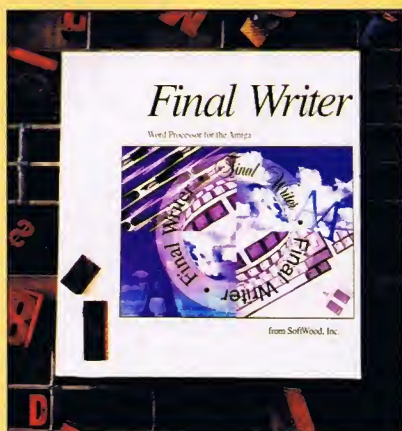
Now edit the footer of your right master page. Scroll down to the bottom of the screen and draw another 1-point black line, starting at 9.25 inches down the page and continuing across to end at the 7.5-inch mark—the right margin. After doing so, insert your text cursor directly below that line—at about the 9.5-inch mark—and type: Cheyne's Nautical News [TAB]. Immediately after the tab, use the Edit | Insert Item | Page Number menu option to insert a page number, and then manually type another tab character. Highlight the text, assign the HeaderText style to it, and then right-justify the text.

Having finished with the right master page, select the left master page and repeat the above steps. The only difference between the left and the right master pages will be the location of the page number and accompanying text in the footer. Use the format [TAB] Edit | Insert Item | Page Number, and then type Cheyne's Nautical News. Instead of right-justifying the text, left-justify it. This will ensure that the page number will always be on the outermost edge of the page, regardless of what page the reader is looking at (see Figure 4). Once your work on the master pages is done, return to the main document

editing screen. While you will see your editing changes for the master pages on this screen, note that you cannot do any editing here. The results of your editing, however, appear automatically on every left and right page in the document, regardless of the document's length.

For the publication's masthead, you won't want to type the text directly into the document. Instead, use Final Writer's Text Block feature to create a separate text object. To do so, click the Text Block icon found in the floating tool palette. In the Text Block Settings requester that appears, type the words Cheyne's Nautical News into the Content edit field. Then click the left button under the text-flow options. Because you want to create a distinctive masthead for the newsletter, you can use a unique size and style of font. Select the Define button to bring up the Type Specs requester, and then click the Select button to bring up the Select Font requester.

For your example, now choose the font called *Quadrat\_Bold\_Italic* that's located in the FinalWriter/FWFonts/SWOLFonts/Serif directory. Returning to the Type Specs requester, enter a value of 36 into the Size edit field and then select blue as the font color. Click OK to accept the changes and return to the main document window. The text will now appear on screen, ready to be moved into the correct location. To do so, select the ►



## Final Writer, Release 2

*The latest version of the Amiga's top word processor is better than ever.*

SO WHAT DOES Final Writer, release 2 (\$199.95) offer that the original Final Writer didn't? For starters, Softwood has heeded the advice of software reviewers and customers alike by adding an Undo/Redo feature. You can now experiment with your document without having to worry about destroying your hard work through an ill-timed deletion or other mistake. The Redo option adds yet another layer of protection, allowing you to return to your document at the point where you were prior to selecting Undo.

As mentioned in the accompanying tutorial, Softwood has also added tool palettes and a Font/Style strip to the new Final Writer. With the Font/Style strip, changing fonts, point sizes, and

styles is as simple as pointing and clicking on the appropriate button. Instead of having to burrow through multiple menu layers to add bold, italic, or underline effects to your text, three clearly marked icons on the Font/Style strip provide immediate access to those features: Simply highlight the text you want to alter and press the requisite button.

Tool palettes are movable, resizable program windows that allow you to add a multitude of user-defined icons without having to worry about running out of space on the main toolbar. The user-button palette can contain user-defined buttons connected to macros and other program elements, making it even easier to customize your word-processing environment to suit your needs. Palette windows will prove particularly useful because of Final Writer's ability to remember the size and location of any palette windows after you exit the program. When you return to the program, the palette windows will be restored to their original locations, ensuring that you'll have a consistent program environment in which to write

your Pulitzer-winning publication.

Although master pages and paragraph styles were included in the initial release of Final Writer, Softwood has made both even more useful and easier to access in release 2. You can now easily select body, left master, or right master pages via a handy submenu in the revised View menu. Similarly, paragraph styles can now be selected more easily using the new Style palette or Font/Style strip. The View menu has a number of other new additions, including menu options to hide/reveal page guides, rulers, and button strips.

Given the aforementioned new features (along with a few bug fixes), it's clear that Softwood intends Final Writer to be an evolutionary product meant to take on such PC word-processing goliaths as WordPerfect 6.0 and Microsoft Word for Windows 6.0. The fact that release 2 improves significantly upon what is an already superlative Amiga product demonstrates that Softwood is well on its way to achieving that goal. □

—JJ

Pointer tool from the floating tool palette and move the text in between the two black lines at the top of the page, placing the masthead above the volume and date

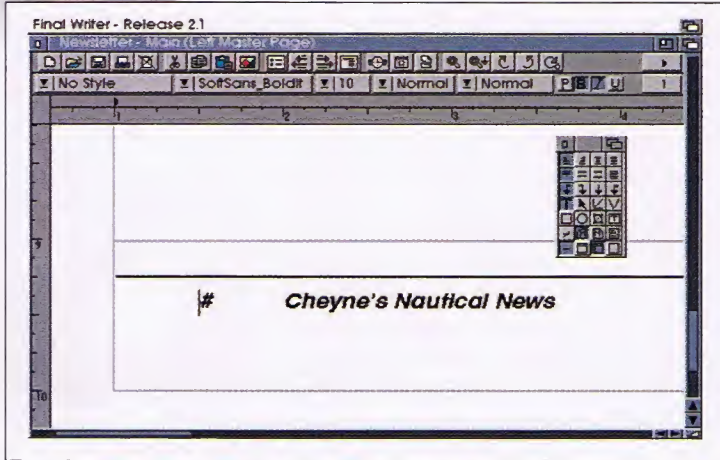


Figure 4. Like headers, footers are also easy to create with the master-page editing tools.

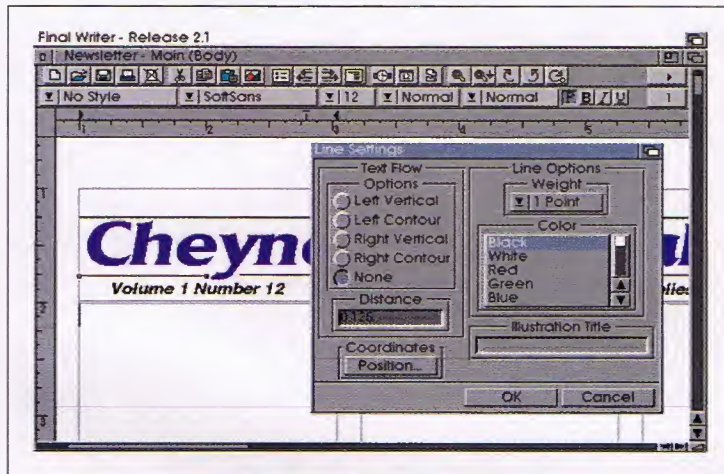


Figure 5. You can create distinctive mastheads with the program's large selection of font types, styles and sizes.

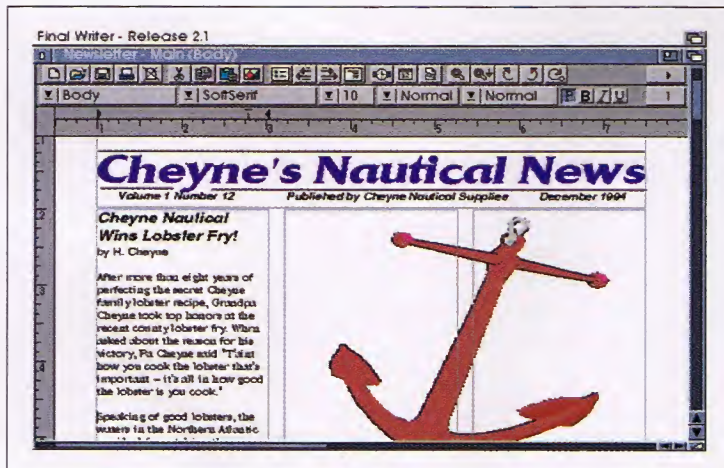


Figure 6. Things are looking good as the main elements of the opening page fall into place.

information entered previously. To add some extra visual flair to the masthead, use the line-drawing tools to draw a pair of black lines underneath the masthead, with a space for the descending "y" to poke through (see Figure 5).

### TEXT, PICTURES, AND BULLETS

Now that you've finished the master pages, styles, and masthead, you can begin importing the text and graphics that will fill out the document. To begin with, import an eye-catching graphic for your cover, something related to the publication and the audience you're attempting to reach. Select the Graphics | Import . . . menu option. Double-click the Totem drawer, then select and load the anchor.epsf image. Once the image has loaded and appeared in your main document window, double-clicking the image will bring up a requester entitled Imported Graphics Settings. In this requester, change the value in the distance field from 0.125 to 0.3 inches. Select the left Vertical Text Flow button, then click OK. Move the image to the upper right of the page so it fills the top of the second and third columns. There! you've just successfully added a graphic to your newsletter. Now you can import some text to go along with the anchor graphic.

To add text, place the cursor in the upper-left corner of the first column on the first page. Select the File | Open . . . menu option, then use the Open Document requester to find the text you're looking for. If you've downloaded the necessary files for this tutorial, select the LOBSTER.TXT file. Another Final Writer document window will open containing the text file. Copy the text from this new window—using the Edit | Select All command, followed by Copy—and paste it into the first column. When finished, close the LOBSTER.TXT document window.

Now that the text has been imported, you need to format it correctly: This is where the paragraph styles come in handy. Highlight the headline "Cheyne Nautical Wins Lobster Fry!" and then select the StoryHeader style from the Font/Style strip. Now, apply the ByLine style to the byline and then the Body style to the rest of the text. (See Figure 6 for the finished result.)

You're now ready for the next piece of text. Using the File | Open . . . menu option again, select and load the SALE.TXT text file. After the document has loaded, copy it from the SALE.TXT window and paste it immediately after the end of the lobster story on page 1. After the text is pasted, highlight the words Christmas Sale! and assign the StoryHeader style from the Font/Style strip. This article consists of a short list of sale items, followed by the sale amount. Since Mr. Cheyne wants these items in a bulleted list, highlight all the items in the list and select the Layout | Effects | Bullet menu option.

Congratulations! You've successfully completed the first page of the newsletter. With the skills you've learned, you should easily be able to finish the remaining pages of *Cheyne's Nautical News* or any other publication of your choosing. ■

*Jeff James is Assistant Editor of the digital magazine Interactive Gaming. Write to him c/o AmigaWorld, Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

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## AW Shucks!

Our apologies to *DevWare* for neglecting to include its OctaMED Professional 5 in October's "MIDI Sequencer Jamboree." The best-selling music program was reviewed in Jul. '94, p. 58. In addition, in our Nov. issue, we printed the incorrect phone number for *Intangible Assets* (the number that appears is a FAX line). The correct number is 610/853-4406. We apologize for any inconvenience.

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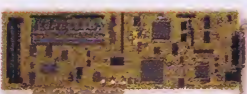
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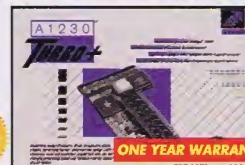
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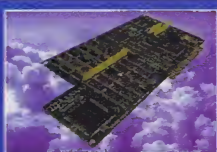
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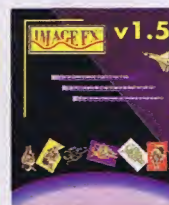
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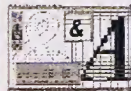
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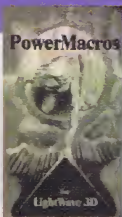
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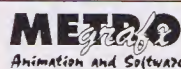
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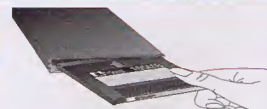
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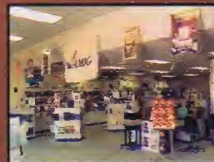
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## # 70

A continuing series  
of tips, techniques,  
and tricks for  
creating more  
imaginative Amiga  
graphics.

By Joel Hagen

# Display Tips for Exhibition—Part 2

LET'S CONTINUE WITH the exploration begun last month of ideas for gallery-oriented computer art. While previously we looked at physical display ideas for sculptures and "installations," now let's focus on the computer presentation itself in such pieces. Even if you have no exhibitions planned, you may find useful tricks to try with your presentation software.

If your computer installation is sculptural, it can be effective to repeat elements of that physical sculpture on the monitor in digital form. For example, in a recent show several of my sculptures of imaginary skulls were arranged with old photographs, chemical bottles and other details around the video viewer illustrated in "Accent" #69. The Amiga display that ran on the viewer occasionally showed close-up digitized details of the skulls. This helped unify the exhibit and added to the mystery of the physical objects. You can use image-processing software to enhance details from the sculpture or even nearby paintings. If you move your installation to a new location, it is also easy to incorporate site-specific images into the display. These techniques can control the attention of the audience to your advantage.

### BREAKING THE RULES

There are many effective yet unconventional ways to use computers in an installation. Because your artistic goals may require techniques that are contrary to conventions about conveying information to a viewer in a corporate presentation or an information kiosk, you may want to reach your audience at a more intuitive, less literal level. To do this, you might simply use the computer to display sequences of full-screen color that are seen only as reflected light within a sculpture. Or, you might just use the computer to drive an old daisy-wheel printer in an endless rattling printout. Or maybe you could play sampled sounds to add to the atmosphere of a piece. Even your image display may depart from conventional expectations. You might find

that blurred images and animations best convey your idea. Don't feel so bound by the power and clarity of computer graphics that you lose sight of the scope of artistic options available to you.

Change and motion are two of the most powerful tools to hold the attention of your audience. A person is more likely to keep watching your display if the images move than if they are simply displayed as a slideshow. This doesn't mean that they need to be animations in a conventional sense. They just need to change or move. For example, you can use image-processing software to create a blurred version of an image. In your installation, use your presentation software to slowly dissolve from the blurred image to the original version. This simple trick will hold the attention of the viewer as the image seems to gradually come into focus.

Another trick is to have the image move across the screen as though a camera was panning it. One way to do this is to create an image larger than the screen. Use your presentation software to grab screen-size chunks of that image from a hidden memory buffer. The accompanying illustration shows this idea on an orbital Mars photo. Each blue rectangle represents a 640x400-pixel block being grabbed from the larger image, then displayed. To someone viewing a smooth and rapid succession of these screens, it feels like an animation of the planet's surface passing across the field of view. Revealing an image gradually instead of all at once heightens the curiosity of the viewer.

### A RANDOM SENSE OF ORDER

For conveying a feeling of change in a display, perhaps no tool is as handy as the random-number generator in your presentation software. I employ random numbers in nearly every aspect of my computer installations. At the simplest level, you can display images in a

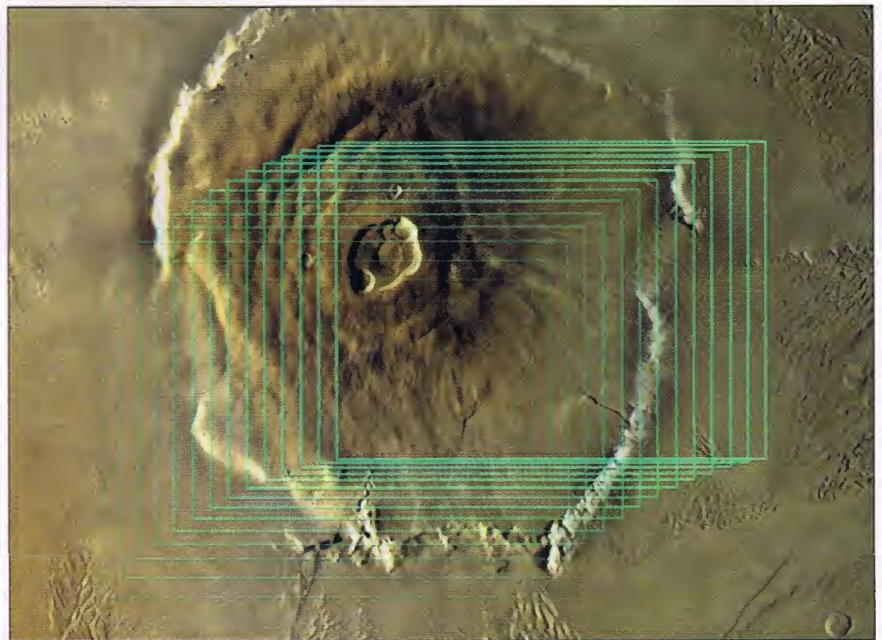
## More presentation techniques for creating integrated—and interesting—display possibilities for your computer art.

random order to take away some of the predictability. Once you begin working with randomness, you will find more and more interesting applications.

In the illustrated motion across the Mars image, each of the blue rectangles can be specified by its x and y coordinates. To achieve a straight horizontal pan over the image, you need only add a constant such as 1 to the x coordinate each time you grab a new rectangle. For a more interesting motion, you might try randomly adding -1, 0, or +1 to both the x and y coordinates before each grab. This creates a meandering drift. Were you to simply add any random number to the coordinates, the changes would lack continuity and there would be no illusion of motion. You need to constrain the randomness to a chosen range of numbers. In this case the trick is to generate random numbers zero through two, then subtract one from the result before adding it to a coordinate.

Suppose you want to stack the deck in favor of having +1 crop up more often than 0 or -1? One way to do this is to generate -1, 0, +1, and +2. After the number is generated, use a conditional to evaluate the result. Make any number greater than +1 equal to +1. In this way, you can create movement through an image that wanders around interestingly, but travels predictably in a certain direction. You can also use a conditional to prevent moving off the screen in the course of a random walk (if x is greater than 639, then x equals 639). These techniques are very economical in terms of file size and storage space. You can create a ten-second or ten-minute random animation within an image that would be unthinkable as an animation file. This makes richer presentations possible in limited environments.

You can randomize any aspect of a display that gives you access to its parameters. You can randomize color, transitions, wipe direction, text, and so on. One of the more powerful display elements you can randomize is sound



Each blue rectangle above represents a screen-size block of the large Mars image. If these blocks are grabbed in a smooth sequence from the hidden image and displayed, the viewer has the impression of the image drifting smoothly past the screen. Tricks like this can add interest to computer displays.

play. For example, you could enhance the atmosphere of an installation with the sound illusion of a continuous storm. You might draw randomly from a pool of several wind samples, frogs, rain sounds, and so forth. Layer these into the Amiga's four audio channels at random intervals with an occasional thunder clap, and you have created a nonrepeating storm that can play for days. Sampled voices can produce very spooky results when layered randomly into all the sound channels. If you have access to sound-play parameters, you can even randomize the pitch and amplitude for infinite effects from a few samples.

If your presentation software lacks

some of these features, you might try using Basic or ARExx. In any case, Amiga installation sculpture can be a great option for gallery exhibition, and random numbers can break up the predictability of your display. ■

*Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.*

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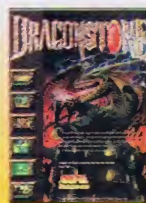
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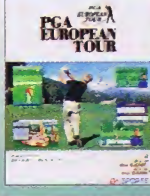
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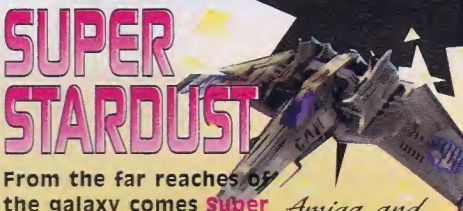
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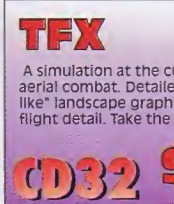
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From p. 12.

TypeSmith 2.5 could benefit by having more menu items selectable from the keyboard. The program also assumes that the only place you would store Amiga bitmap fonts would be in the Fonts: directory, so it provides no way to select another directory. This is unfortunate, for many of us would like to store scanned fonts in a work-in-progress location separate from our main font drawers.

## CONCLUSIONS

The major changes to TypeSmith 2.5 make it an even more valuable tool for font users. Most of the bugs have been fixed, and the interface has been refined and polished. It's hard to fault the program. It does everything it's supposed to do. The addition of TrueType and IFF RFF support and the ability to print character sets are alone worth the price of admission. If you don't think you have a use for a font-management program, you'll be surprised by TypeSmith 2.5. It's a powerful tool that can simplify things for the desktop publisher, videographer, or graphics artist in you.

—Rick Manasa

## LIVE!2000 UPDATE

Argus Associates, \$595

A2000/A3000/A4000.

Hard-drive installable.

Not copy protected.

2.x/3.x compatible.

Accelerator compatible.

Installation: Easy.

Minimum system: 1MB, video source.

Recommended system: Hard disk, 6+MB.

Updated software and hardware for Live 2000!

When the Amiga was launched in 1985, the late Andy Warhol used an eye-grabbing product called Live! (A² Distributions) to perform real-time video processing, effects, and image capture. The product eventually fell out of development and quietly faded into oblivion. In recent months, however, A²'s former jack of all trades, Obert Sonsten, has resurrected the Live2000 board, some of its associated software, and software called InvisionPlus (Elan Design).

## AMIGA TRIVIA TIME

Live!2000 is a Zorro II card with two composite inputs and pass-thrus. It performs a range of real-time effects such as color map, strobe, fade, and chroma key, all without the need for time-base cor-

rected video input. It also digitizes still images or sequences as animations, and it performs a few image-processing operations. The system is limited to the Amiga's native display rates and HAM, interlace, overscan, and high-resolution (640x400, 16-color) modes.

The software part of the equation is Elan Design's InvisionPlus (\$299), a graphical interface for the Live! effects. Using interactive programmable mouse control, InvisionPlus maps selected effects of images and animations to keys on



InvisionPlus nicely complements the Live2000! hardware.

the Amiga keyboard. Used in conjunction with Live!, InvisionPlus can capture images and animations.

## NUMEROUS UPDATES

The hardware update for the Live!2000 board allows it to now be used with all versions of Workbench and in Amiga 3000s and 4000s. A necessary fix consists of replacing one socketed chip (an easy procedure), cutting the leg of one chip and soldering a jumper from there to the leg of another. The cut-and-solder work, while not especially difficult, does require rather fine tools and a steady hand. If you've never attempted this sort of precise work, take Argus Associates up on its offer to do the update for you. The Live! software update and the InvisionPlus patch are available on disk.

Argus Associates is continuing to update the Live! board and the InvisionPlus software, and is exploring the possibilities of selling updated packages separately. It would also like to produce updates for Focus Video (image processing) and Mondo Stereo (3-D stereo-image creation), as well as for other products that were under development at A² but never released.

## LIVE! PERFORMANCES

The Live! board plays host to a number of other interactive software products that use its real-time video-processing

power to create interactive environments. Two of these, Mandala (Vivid Group) and Cyberscape (Tensor Productions), have been used extensively by performance artists, dancers, television producers, mechanical and structural engineers, and environmental artists. The performers or participants can interact in real time with the Amiga, producing music and sounds, showing pictures and animations, and in general having a great time.

The best part is that putting an interactive system like that together is quite affordable. My hat is off to Argus Associates for bringing Live! and InvisionPlus into the market again and making them available to users of the latest versions of the Amiga operating system.

—Michael Hanish

## IMAGE MIRROR

Seven Seas Software, \$149

All Amigas.

2.x/3.x compatible.

Hard-drive installable.

Not copy protected.

Accelerator compatible.

Minimum system: 2MB, 10MB

hard-drive space.

Recommended system: 4MB,

AGA or OpalVision.

## Basic image processing.

Seven Seas, the makers of MathVision, has introduced a new entrant in the field of Amiga image processors. While Image Mirror offers only a limited number of tools, it sports a unique, icon-based, drag-and-drop interface. Its tools are mainly of the composite variety, including few of the standard adjustments (such as gamma and contrast) one would expect to find in an image processor.

## MOVING ICONS

Just about every function in Image Mirror works by dragging one icon onto another. After you have loaded an IFF image onto the Table window by double-clicking the LoadPic icon, you drag the image's icon onto a tool to perform the desired operation. When done, you can drag the image to icons that discard, save, rename, or print the file. To view the image, just drag its icon onto DrawPic, which displays it in HAM6, HAM8, OpalVision, or the Toaster, depending on your hardware. Image Mirror loads any kind of IFF image, though it saves only in the IFF24 format. While you can choose to work with regions inside an image, the

Continued on p. 46.



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ESB6DX Module for Emplant	Call
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Multiface III I/O Extender	92.00
Supra Turbo 28 A500 or A2000	169.00

## WB2 Upgrades

2.1 Software & Mastering AmigaDOS Reference Manual	\$40.00
2.1 Software & Mastering AmigaDOS Reference Manual & 2.04 ROM	72.95
Multi-Start 2 v6A 500/600/2000	34.00
AS216 2.1 Kit from Commodore	54.95
AS216 2.1 Kit w/2.04 ROM from CBM	86.95
AS314 2.04 A3000 ROM set w/2.1 software	59.95

## Toaster Systems

Call for details on our complete Toaster systems!

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BigFoot 200W P.S.-A500-600-1200	\$84.95
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A500 Keyboard	29.95
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## CBM Parts & Peripherals

A600 Keyboard	\$29.95
A2000/A3000 Keyboard	69.95
A2000 Internal Floppy Drive	69.95
A3000 Internal Floppy Drive	69.95
A2000 Power Supply	109.00
CBM Amiga Model Mouse	19.95
CBM A600 Model Mouse	26.95
CBM A4000 Model Mouse	26.95
Golden Image Optical Mouse	44.95
Swifty 3 Button Mouse	27.95
A4000 Case	64.95

## CD-ROM

### NEC CDR-25 CD-ROM Drive

- Ext w/Power Supply, Headphone Jack
- Cabling for external 25 pin SCSI port
- Supports Single Session Photo CD
- Unispeed 650Ms Acc., 7Mb/s Transfer
- Manufactured for Media Vision

**\$99.95**

### NEC CDR-210 Internal CD-ROM

- Doublespeed, 380Ms Access
- 1.5Mb/s Transfer Rate
- SCSI or SCSI 2 Connectivity
- MultiSession Photo, Headphone Jack

**\$185.00**

External model w/cabling  
**\$269.00**

### Plextron 4 Plex Quad Internal

- SCSI-2, 600Kb/sec data transfer
- 1Mb Buffer, 150Ms Random Seek
- 2 Year Warranty
- Toll Free Technical Line

**\$569.00**

External model  
**\$659.00**

### NEC 3XI Internal CD-ROM Drive

- SCSI-2, 190Ms Access • Triple Spin
- 1 Year W'ty • Refurbished by NEC

**\$345.00**

External model  
**\$429.00**

### CD-ROM Drivers

ASIM CDFS 2.0 w/Fish 232-1000 \$46.95

### A1200 Peripherals

CSA 12 Gauge 50Mz w/SCSI	\$499.00
PCMCIA Card 600/1200 2Mb	135.00
PCMCIA Card 600/1200 4Mb	229.00
IDE Cable & Software - 600/1200	20.00
M1230 Accelerator 33/33/0	275.00

### Monitors

CD-1401 Multiscan	\$499.00
CTX AD-1970 Multiscan	475.00
Electrohome C1440 Multiscan	499.00

## Commodore A2410 Graphics Card

This is the last batch of Commodore's 24-bit Amiga graphics card which has been called the "Lowell" graphics card. Supplies are limited.

**\$139.95**

### Modems & Networking

Hydra AmigaNet Ethernet Card	\$309.00
A2060 ArcNet Board	69.95
GP Fax Software - Class 1 & 2	59.95
Sporster 14.4 Fax Modem	179.00
Supra Fax/Modem 14.4	209.00
Supra Fax/Modem 28.8	299.00

### Dr. T's Music Bundle

Includes KCS V3 & Copyist Apprentice  
Originally sold for \$469.00  
**Special Price \$69.95**

## 3.1 OS Kits

### NOW AVAILABLE!

AS320 3.1 Kit w/complete Manuals, Disks, & ROM for the A500, A2000, & A2500  
**\$159.00**

AS330 3.1 Kit w/complete Manuals, Disks, & ROM set for all A3000 models  
**\$179.00**

AS340 3.1 Kit w/complete Manuals, Disks, & ROM set for all A1200 & A4000 models  
**\$179.00**

**DECEMBER SPECIAL**  
Free Shipping when you purchase any AmigaDOS 3.1 Kit

The 3.1 OS Kit includes the following new features:

- New screen modes & improved support for graphic boards (e.g. Picasso 2 RTG with up to 1600x1200 pixels in 256 colors)
  - Significantly accelerated graphics rendering by rewritten graphics and layers libraries
  - CD-ROM support (including CDXL), reads standard ISO9660 CDs (including PC data and picture CDs)
  - Support for foreign languages via locale.library (English, German, French, Italian, Swedish, Norwegian, ...)
  - Datatypes for auto-detection of filetype for images, animations, sound, text, hypertext (AmigaGuide), ...
  - Viewing/Playback of various files with MultiView and Datatypes
  - On-line help system using AmigaGuide
  - Improved Graphical User Interface with easier color selection and more flexible color assignment (Pen Sharing)
  - Support for MS-DOS and Atari disks (720Kb and 1.44Mb with High Density floppy drives)
- NOTE! When using the 3.1 Kit with an A1200 you will lose the capability of adding any PCMCIA cards to the port.

## CD-32

We have acquired the last batch of CD-32s in the U.S.A. These are GENUINE U.S. machines, NOT IMPORTS as others are trying to sell.

**\$299.95**

NEW & boxed w/all manuals & cables, 90 Day W'ty. Complete w/Sleepwalker & Pinball Fantasies. Can't find an A1200? Why not consider a CD-32 with the SX-1 module above. Call for details.

### Joystick Bundles

The following Joystick Bundles were originally priced at \$99.00, NOW ONLY \$22.95 - Your Choice:  
Suncom TAC 3 or Suncom TAC 30 w/Theme Park Mystery & Killing Cloud software or Ergo Joystick w/Back to the Future 2 & SpaceWrecked

## Hard to Find Amiga Items

A520 Video Adapter	\$44.95	A2630 25Mz Accelerator	429.00
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501 512K RAM w/Clock	49.95	A500 Users Manual	9.95
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w/Rev 6.6 Eproms		Quantum 52Mb LPS	109.95
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## SX-1

**SX-1 CD-32 Expansion Module by Paravision**  
In Stock! **\$239.00**

**SX-1 Keyboard: \$44.95**

### Options:

1Mb RAM	\$49.95	4Mb RAM	\$165.00
8Mb RAM	\$319.00		
40Mb HD	\$149.00	85Mb HD	\$199.00
170Mb HD	\$279.00		
250Mb HD	\$369.00		

## Overdrive-CD

Now available, Archos' Overdrive-CD, also known as "Zappo". The World's first PCMCIA slot CD-ROM Drive for both the A600 & A1200. Features include:

- Double Speed, 300Kbs
- Emulates CD-32 CD-ROM device
- Runs most CD-32 software
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- Plays Digital-Audio & Photo-CDs
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- File system compatible w/ISO9660, AmigaDOS, PC-DOS, & Mac HFS

**\$339.95**

## Last Chance Products

A1011 External Floppy Drive	\$79.95
A10 Stereo Speakers	34.95
Mouse for CDTV, wired	16.95
Floppy Drive for CDTV	79.95
1402 12" Monochrome Monitor	79.00
1403 14" VGA Mono Monitor	139.00
1802 Color Composite Monitor	159.00

### Miscellaneous Commodore Parts

A2286 1.2Mb 5.25" Floppy Drive	\$45.00
Nameplate A2000	6.00
Nameplate A2000HD	6.00
Nameplate A600	6.00
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Nameplate A1200HD/40	6.00
Casework A1200 bottom	14.00
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Cable Ass'y A4000 HDD	9.00
Cable Ass'y A2386SX PC	9.00
Cable Ass'y A2386SX NUX	9.00
Bezel A3000 front	8.00
Bezel FDD Cover 3.5" LT	8.00
DKB Tower for A3000 w/ROM	19.00

## A3640 Accelerator

We have acquired a limited supply of the A3640 Accelerator. This is the accelerator used in the A4000 040 & the A3000 Tower 040. It includes a RC68040 running at 25Mz and is ready to plug into any A3000 Tower or A4000-030.  
**\$449.00**

### Books

A1200 The Next Step	\$26.00
A1200 Insiders Guide	26.00
Mastering Amiga DOS 3 Tutorial	31.00
Mastering Amiga DOS 3 Reference	31.00
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**\$199.95**

### DKB A2632 RAM Board

A 32-bit RAM Expansion Board for the Amiga A2630 Accelerator Card. Allows 32-bit RAM beyond 4Mb, expandable to 112Mb using 32-bit wide SIMMs. Faster than RAM on A2630 and full Burst Mode support. Perfect for Video, Graphics, Animations, and DTP.  
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#### Options:

Add 4Mb RAM - \$159.00  
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Add 16Mb RAM - \$599.00  
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### DKB A1240 Board

A multi-function board for the Amiga 1200. Includes: 68030 for up to 6 times faster speed; room for up to 128Mb of 32-bit RAM using one industry standard SIMM; clock-calendar. Add an optional Math-Co up to 50Mz. Features an expansion connector for an optional SCSI controller.

1240 40Mz EC CPU - \$249.00

1240 28Mz RC CPU - \$199.00

#### Options:

Add 33Mz 68882 FPU - \$79.00  
Add 50Mz 68882 FPU - \$109.00  
Add 1Mb RAM - \$49.00  
Add 2Mb RAM - \$89.00  
Add 4Mb RAM - \$159.00  
Add 8Mb RAM - \$309.00

### Power Point HD Internal Floppy

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Installs internally in your A1200 on the clock header of the Motherboard. Automatically recognized by AmigaDOS.  
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**Chinon Internal H. D. Floppy Drive**  
Now available, from Commodore & DKB, is the Chinon 4015 HD Floppy Drive. This is the same unit as used in the Amiga 4000, now also compatible with the A2000. Drives can be used as either d0: or d1: (or buy two and use as both). Complete with installation instructions.  
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### DKB A3128 RAM Board

A 32-bit RAM Expansion Board for A3000/4000 owners. Allows 32-bit RAM expansion to 146Mb using industry standard 4, 8, 16, & 32Mb SIMMs. Easily installs in any slot. A MUST HAVE for Toaster users.  
**\$249.00**

Options: Same as A2632 on left.

### DKB A1202 Board

A multi-function board for the A1200. Provides the max Fast-RAM expansion possible plus a clock-calendar. The 2 sockets allow 1, 2, 4, or 8Mb RAM using standard 32-bit SIMMs. Optional Math-Co can speed up math-intensive programs as much as 10 times, or more.  
**1202, no FPU, OK - \$99.95**

#### Options:

Add 16Mz 68882 - \$32.95  
Add 25Mz 68882 - \$57.95  
Add 33Mz 68882 - \$74.95  
Add 40Mz 68882 - \$134.95  
Add RAM - Same as A1240 on left

### KwikStart 2

Allows A1000 owners to install 2 different Kickstart ROM chips. Upgrade to latest OS without using system memory yet you can still boot from disk-based Kickstarts.  
**\$54.95**

#### Options:

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3.1 OS Kit - \$159.00

### DKB 4091 SCSI Controller

High-Performance, DMA, Fast SCSI-2 controller for Zorro3 expansion slots. Includes SCSI internal connector, ribbon cable, & hardware to install a 3.5" HD on the board and a high-density SCSI-2 external connector.  
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### GVP 030 Combo

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GVP puts a 40Mz Motorola 040 in your Amiga (030 or 040) & couples it with, up to, 32Mb of super fast SIMM32 memory. Directly controlled by this blazing processor. G-Force A4000 040/40/40/40Mz **\$989.00**  
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### A2000 G-Force 040-33 Combo

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Add up to 7 SCSI devices to your Amiga and smile. Provides room for up to 8Mb of 16-bit RAM.  
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Accelerate your A1200 up to 50Mz. Room for: up to 32Mb of 32-bit RAM; an FPU; A1291 SCSI kit.  
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**M-TEC AT-500 w/No HD - \$149.95**  
**w/250Mb HD - \$379.00**  
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#### Options:

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Kickstart 1.3 ROM - \$21.95  
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#### M-TEC 68020 Turbo System

This is the powerful, yet affordable, accelerator the average A500 user has been waiting for! Includes a 68020 CPU & 68881 Math-Co, both running at 16Mz. Also included is a SIMM socket for up to 4Mb of 32-bit RAM. The board attaches to your Motherboard with NO soldering. Install disk and manual are included.  
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#### Options:

1Mb 32-bit RAM Module - \$49.95  
4Mb 32-bit RAM Module - \$165.00

#### M-TEC T1230/28 RTC

This is the powerful, yet affordable, accelerator the average A1200 user has been waiting for! Includes a 68030 CPU and 68882 Math-Co, both running at 28Mz. Also includes a SIMM socket for up to 8Mb of 32-bit RAM. The board plugs into the Trap Door with NO soldering. A SCSI port is also provided, allowing the use of a SCSI1 or SCSI2 HD, when this module is released in the near future.  
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#### Options:

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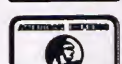
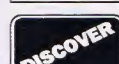
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## Software

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A3028 28Mz w/CPU	1019.00
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- Requires AmigaDOS 2.1 or higher
- No additional patches needed
- Installation instructions included

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From p. 42.

program supports only rectangular areas.

Two other icons, StoryLine and Animate, are animation utilities. Storyline creates a set of thumbnails that snapshot the frames of an animation (typically at incremental points in an image-processing effect), and Animate generates 24-bit IFFs that you can combine into an ANIM file with another program. You can use



**Image Mirror can enhance even the most beautiful image.**

different tools in the same animation, thus facilitating complicated creations.

Image Mirror's tools are configured in a nontraditional fashion: Instead of sliders to adjust a tool's effect, you're presented with a variety of thumbnail images that show a range of effects; you then click on the image that most closely approximates what you want.

The manual contains a few excellent tutorials and a limited reference section, and you'll probably need to scan it before Image Mirror's unusual interface makes sense.

## PROCESSING TOOLS

I performed a simple rubthrough operation with the same two images in ADPro, Imagemaster R/t, and Image Mirror. Imagemaster just barely edged out ADPro's eight seconds, but it took Image Mirror about two minutes and forty seconds to perform the same task. Other effects took similarly lengthy times to process. On the plus side, however, Image Mirror includes some nifty effects, including one I've never seen before: Mandel, a function that swirls your image into a variety of fractal patterns. Image Mirror also includes about two dozen tools for rotating, warping, compositing, and morphing images.

## A SLIGHTLY OBSCURED MIRROR

The user interface, while novel, is not well implemented. When you start a process, for instance, there is no bar or dial to indicate progress. Also, the program's

requesters are aesthetically crude, displaying messages like "Busy\_Busy\_Busy." And avoiding sliders for the convenience of processing effects by the use of pictures doesn't work well. The thumbnails' 16-color grayscale screen is insufficiently detailed to figure out what is going on.

With its few unique tools, Image Mirror might be a reasonable choice, were it not so costly. In addition, the program is surprisingly slow (even on an A4000) and has a decidedly unfinished look.

—Dave Johnson

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Accelerator compatible.

Minimum system: 1MB.

Recommended system: MIDI

output device.

**Music and ear-training software  
for the Amiga.**

Cochlear Consciousness (CC), a set of aural-training programs that helps you develop relative and absolute pitch and the ability to recognize chords and harmonics, is ideal for budding piano tuners and musicians. Using a graphical interface, CC's built-in quizzes remember your errors and improve your weak areas. CC includes six programs: Chords, Harmonics, Beats, Just, Temper, and Absolute, each designed to focus on an aspect or method of ear training.

Chords teaches how to identify intervals, chords and chord progressions, while Harmonics shows how to recognize the individual harmonics of a tone. The Beats program helps you recognize the coincident harmonics of two tones and the beat rate. Just teaches you how to tune so the harmonics of a tone don't beat against each other. The Temper program puts it all together, allowing you to create or modify tunings and identify the differences between two tunings. Finally, Absolute helps you develop perfect or absolute pitch, without reference to an already identified pitch. Some of the programs build on skills learned in previous sessions, so taking the lessons in order makes good sense.

The manual's technical language is understandable and shouldn't impede the serious student. It gives a good overview and an in-depth discussion of each program, as well as a section on

psychoacoustic and sound theory for those interested in the concepts on which the program is based.

## PROGRAM PARADE

Each program offers a different twist on ear training. The Chords program lets you design and save your own chord database as well as transpose and limit the range of chords presented by the quizzes. You can also load and save different tunings and toggle MIDI access.

The Harmonics program lets you think of each note as a combination of its harmonics, and most of the features in the Chords program are duplicated here. Beats teaches not only intervals and harmonics, but also the subtle beating patterns.

The Absolute program doesn't follow the logical progression of the others, requiring a familiarity only with the Chords program. The three modes ask you to tell whether the pitch is the tonic or above or below it (Binary mode); to identify the note correctly, regardless of octave (Chroma mode); or to identify the exact note (Note mode).

Unfortunately, the program uses nonstandard requesters, and in the quiz sections, if you accidentally click the wrong key, you have to accept the error and the consequent lowering of your score. Also, there are no safety nets such as save or record.

As a largely unschooled musician, I've always been suspicious of people who could tell notes and chords without audio or visual clues. Many of those same musicians, however, felt intimidated by my ability to play by ear. Cochlear Consciousness helps both camps get a better understanding of what the other is doing.

—Rick Manasa

## PCTask

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Not copy protected.

Accelerator compatible.

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Recommended system: 4MB, hard disk.

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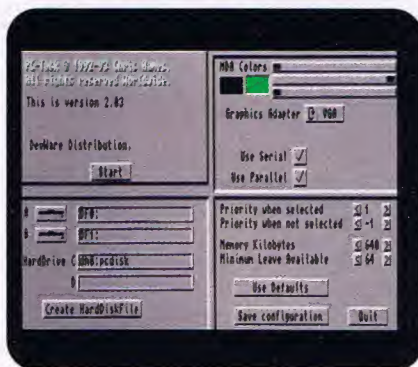
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its 4.77-MHz performance level. If you're looking for a cheap emulator so that you can take your daily PC word-processing work home with you, then PCTask may fit the bill. If you're looking to run Windows or play Wing Commander II, however, you need to invest in a good 486-33.

### SLOW BOAT TO DOS

Getting up and running is straightforward. PCTask installs quickly, then opens its own Amiga window to display the number of physical disk drives it can use as PC drives (these can be any internal floppies connected to your system). In addition, hard-drive owners can simulate having a C: or D: drive by setting up a special PC file on the Amiga hard drive, or by partitioning a portion of the Amiga drive to act as a PC drive.

As for the display, you can select whether to emulate a monochrome, CGA, EGA, or VGA graphics adapter. In order to use SVGA or MCGA graphics (640x480 or 320x200 in 256 colors), you must have the AGA chip set. PCTask seems to emulate only 256K of video memory—an almost-forgotten limitation



Getting started is easy with PC Task.

that precludes running most current PC graphics applications. If you leave the set-up screen, PCTask immediately tries to boot up into its PC-emulation mode. Note well that you must have a PC system disk handy; it's not included with the program. You need ready access to a PC (or know someone who does) before using PCTask.

### BOTTOM LINE

Most PC-XT-compatible programs work with PCTask. I ran WordStar,

dBASE III, and several other productivity programs without any problem. Amazingly, WordStar seemed more responsive than the Amiga's own ProWrite and Final Writer.

Disappointment set in, however, when I tried to boot up games or any application that involved graphics, with the exception of Electronic Arts' DeluxePaint II Enhanced for the PC. This program, however, was painfully slow. And almost every old XT game I tried to load resulted in either an out-of-memory error or a system crash.

I'm annoyed that DevWare supplies no printed documentation for a \$50 program; instead, you must rely on a disk file. Although the best performance requires an accelerated Amiga, I still found operation slow on a 40-MHz, 68030-based system.

In conclusion, if you're anxious to run today's mainstream PC programs on your Amiga, there's still no substitute for hardware. PCTask is strictly for those budget-minded Amiga users with a need to access older XT-compatible databases, word processors, and other applications.

—John Ryan ■

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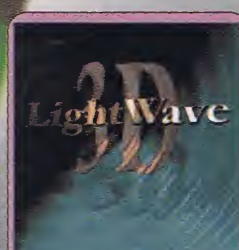
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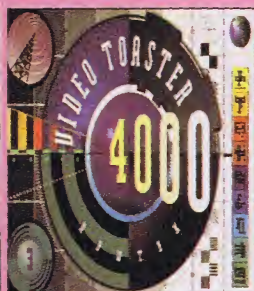


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Barracuda-2 ST12550N 2.1 GB \$ 1345	Barracuda-4 ST15150N 4.3 GB New Low Price! \$ 3395
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## ToasterOven

**The Most Powerful DeskTop Video System In The World! Just Got More Powerful !!!**



**INSTANT REBATE \$100\*\*\***

The ToasterOven GT has been Completely Redesigned. Its bigger and has a new slotboard called the BigEthel Sisterboard that greatly expands the versatility of the your system.

The new ToasterOven GT has:  
BigEthel Sisterboard  
More room for Full-Height drive bays.  
More System Cooling Power.  
SCSI-2 wiring harness for upto  
6 internal drives and an external port.  
3 External Flyer SCSI-2 Ports  
All Metal RF Enclosure  
L.E.D. Readout For Clock Speed  
Switches Monitor On/Off

**NEW**

\*Optional Adapter allows you to plug your YC+ or Personal Component Adapter into our PC Card Slot.  
\*\*Other configurations available.  
\*\*\*Instant Rebate good on all paid orders received before December, 31, 1994.

## Big Ethel Sisterboard

11 slots positions:  
2 video slots  
7 Zorro slots  
(4 standard 3 power slots)  
6 PC slots  
(5 Full Function 3 power slots)

ToasterOven GT-4300 \$1295

BigEthel Sisterboard  
300watt Switchable Power Supply  
11 Bays (2- 3 1/2 ; 5- 5 1/4 ; & 4 LPS Bays\*\*)

ToasterOven GT-4400 \$1495

BigEthel Sisterboard  
400watt Switchable Power Supply  
19 Bays (2- 3 1/2 ; 17- 5 1/4 Bays\*\*)  
Greater Cooling capacity

## Why do you need a Toaster Oven for your Flyer system?

A big problem with the A4000 is its deficient expansion capability in adding cards or peripheral drives. Its power supply is equally weak.

### Peripheral Cards

**A4000 LIMITATIONS** → Although you have a video slot, four Zorro and three PC slots, you can add only four cards: e.g., the Video Toaster (which is a double-width card) occupies two card positions (two Zorros and one PC), leaving two card positions available; adding the Flyer (a Zorro card) takes up another position, leaving one remaining card position (PC/Zorro); and since your Flyer system requires a TBC, that takes your last card position. You need more expansion than that for pro video production!



### TOASTER OVEN ADVANTAGES

Other cards you'd most likely want to add to your system—display cards like the Picasso II or Retina, the SunRize 16 for better audio than the Flyer supplies, or an Ethernet card—can be added to the Toaster Oven. Because the Toaster Oven gives back three Zorro positions.

In the Toaster Oven the Video slot is separate from the Zorro slots, so when adding the Toaster card the Zorros are left free. This gives you back two of your Zorro slots. The Toaster Oven also has six power-only PC slots, one of which can take your TBC. This now frees up one more Zorro!

So your ultimate Flyer system now has: Toaster, Flyer, SunRize AD516, Picasso II or Retina, Ethernet card, TBC, plus five more slot positions for power-only cards; five PC and two optional Zorro cards.

### Peripheral Drives

#### A4000 LIMITATIONS

Another limitation of the A4000 is how few bays for hard disks, CD-ROMs, tape drives, removables, etc. are available. It has one 5.25 inch bay and one extra 3.5 inch bay, and a 3.5 inch internal mounting bracket. And definitely no room for full height drives.

### TOASTER OVEN ADVANTAGES

The Toaster Oven has 11 drive bays. There is one 3.5 inch floppy bay, plus another suitable for a Syquest 270Mb removable. There are five 5.25 inch half-height bays to accommodate NEC triple-speed CD-ROM drives, Exabyte 8505 8mm tape drives and other storage devices, or two full-height 9Gb Elite drives for the Flyer with one bay remaining for another device. There are four internal 3.5 inch Low Profile (LPC) bays.

### Power Supply

#### A4000 LIMITATIONS

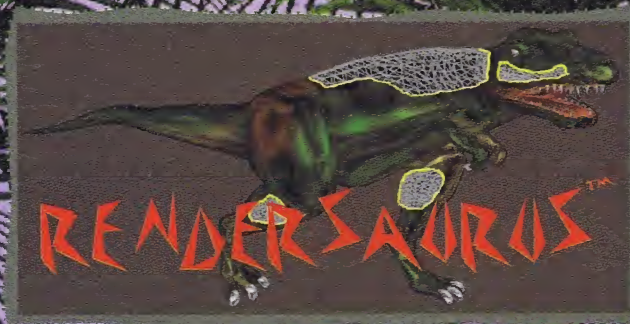
Weak, barely adequate to power a minimum system.

**TOASTER OVEN ADVANTAGES** → 300 Watts and a big fan. Powerful enough to accommodate any load. Say no more!

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# MacroSystem Development

## HARDWARE FEATURES

- Very High Speed Local 040 Memory Bus with full 040 burst access.
- NCR 53C710 40MHz SCSI-2 Fast Controller connected directly to the 040.
- 32Bit SCSI host bus DMA interface supporting burst to and from the RAM
- Supports 10MB/s SCSI transfers.
- Full DMA allows the CPU to still have 90% Processing Power while doing Transfers.
- No Zorro III DMA Problems.
- Fully Autoconfigurable with optional Autoboot capability for SCSI.
- 32Bit Ram Expansion Up To 128MB.
- Uses Standard 72Pin SIMM Modules.
- Allows Mixing of Ram Module Sizes.
- Supports 4, 8, 16, 32 MB SIMM Modules.
- Uses the Memory that is installed on the Amiga 4000 MotherBoard.
- Supports DMA access from Zorro III Devices to onboard Memory.
- A3000 Version Supports up to 64MB of 32Bit Memory.
- A3000 Engine will clock 16MHz MotherBoards at 25MHz.
- Compatibility
- Compatible with the Video Toaster, Retina Z-III and OpalVision.
- Works in all 3000, and 4000 series Amigas.
- Requires AmigaDos 2.1 or greater.
- Full Two Year warranty

**The WARP ENGINE is an 040 Accelerator with a High-Speed SCSI-2 controller & up to 128MB of ram expansion, All-In-One!**

## How Fast Is The Warp Engine?

Rendering Lw3D Texture Example

A4000/040-25MHz: 160 sec.

A4000 Warp 28MHz: 82 sec.- approx. 2x faster

A4000 Warp40MHz: 56 sec.- approx. 3x faster

Warp SCSI-2 Speed:

Using DiskSpeed the 2.1 GB BarracudaDrive:

Read 9MB/sec with 94% of the CPU still available.

## 40 MHz 68040 Accelerator for the VideoToaster/4000

*The Warp Engine Series of Accelerators is a break-through in Amiga Expansion design. The Warp Engine comes in three versions for the Amiga/ Toaster 4000 and three for the Amiga 3000.*

All Warp Engines are fully upgradable to 40MHz by just changing the CPU and the Clock Oscillator!

The Warp Engine uses standard 72 Pin SIMMs ( NO CUSTOM SIMMS ) and allows the use of up to four different sizes of SIMMs ( 4, 8, 16 and 32MB ) at the same time.

Unlike other companare only available from them, and/or they only allow the same size SIMMs to be installed making it necessary to remove your old SIMMs before you can add larger SIMMs.

The NCR53C710-1 SCSI-II Fast 32Bit DMA Bus Master Processor makes it the Fastest available with its direct connection to the 040 chip—this provides up to 10MB/s Transfers and allows the 040 to retain 90% to 98% of its processing power! Zorro III Memory boards cannot even reach 70% of the speed of the Motherboard Memory while Warp Engines Local 040 Burst Memory is many times faster than the Motherboard Memory!

# WARP ENGINE

## A3000 WARPS NOW AVAILABLE

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with an 040 CPU \$895

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## A4000 WARPS Still Going Fast!

WARP-4000: 28MHZ  
with an 040 CPU \$ 895

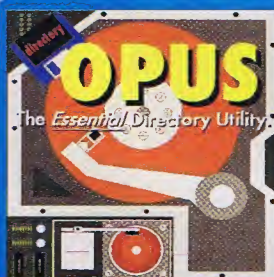
WARP-4000: 33MHZ  
0 MB Ram \$1185  
with a 4MB 60ns \$ Call

WARP-4000: 40MHZ  
0MB Ram \$1425  
with a 16MB \$ Call  
with a 32MB \$ Call

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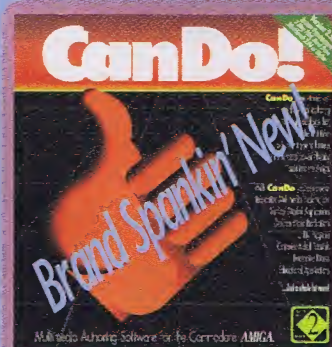


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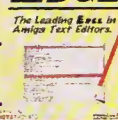
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Creative Utilities to unleash the power of your Toaster, better than ever!



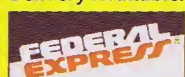
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Moving Textures 100 contains 22 texture sequences for use in computer animations. Two types of image sequences are included on the CD ROM.

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## Tru Maps:

2 versions of a Time Lapse cloud animation, cackling fire, smooth burning flames, bubbling steam, ocean water, and slow moving smoke.

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Each sequence contains 300 to 900 ready to use IFF frames. Tru Maps are stored as 24bit color, 8 bit color, or 8 bit greyscale images. All FX Maps are stored as 8 bit greyscale images.

# Snap Maps: Fields & Foliage



Snap Maps:  
Fields &  
Foliage

\$129.95

**SNAP MAPS:** Fields & Foliage  
Building Materials & Fabrics  
Whereas other texture libraries help you enhance objects  
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SNAP MAPS is the first texture library to support the advanced mapping techniques today's renderers are capable of employing. SNAP MAPS TEXTURES give you an easy, powerful means to put useful, real-world surfaces and structures into your renderings. In addition to adding photorealistic textures, Snap Maps can cut your 3D objects into new shapes, saving a great deal of time in modeling complex objects. Each Snap Maps directory includes many types of texture maps, pixel-aligned to work together, to create specific, detailed surfaces or structures. Also included are pre-textured tutorial scenes in LightWave, Imagine, and Real 3D format, and handy 24-bit preview pages for a graphics overview. Comes with complete instructions and tutorials, and texturing tips for better rendering.

## Snap Mas: Super Bundle- F&F plus BM&F \$240

Snap Maps: Building Materials and Fabrics Library includes the textures you need to render a wide variety of manmade materials, for architectural rendering, realistic sets, buildings, and urban environments. The fabrics are great for carpeting, curtains, upholstered furniture, clothing, lamp shades, etc. Unique Snap Maps features add richness and depth to surfaces, and cut out complex structures like lace, wicker, fences and lattices that would otherwise be extremely complex to model.

Building Materials and Fabrics includes:

Brick, Burlap, Cement, Chainlink, Concrete, Crossweave, Fabric, Gravel, Lace, Lattice, Mesh, Net Plush, Ribknit, Slats, Stripedcloth, Tile, Weave, Wicker, and Wood.

Snap Maps: Fields and Foliage Library includes all you need to render realistic forests, jungles, gardens, yards, and house plants. Unique Snap Maps features add richness and depth to surfaces, and complex cut-out structures like palm fronds, flowers, grasses, and ivy that would otherwise be extremely complex to model.

Fields and Foliage includes:

Bark, Branch, Fern, Flower, Foliage, Four-Leaves, Grass, Ground, Hedge, Ivy, Lawn, Palm, Stalk, Stems, Stones, ThinFlower, ThreeLeaves, Twig, Vine, and WildGrass.

Snap Maps:  
Building Materials  
& Fabrics \$129.95

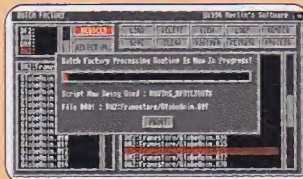
## Snap Maps:

Building Materials & Fabrics



# Visual Inspirations

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is the most powerful and easy to use Batch Processing Utility on the Amiga. It comes with over 350 AREXX scripts that range from creating animations to compositing images to making custom video wipes.

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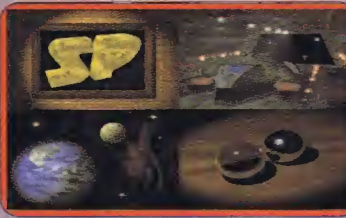


allows you to add audio to your videos and animations with ease. Simply create an EDL to tell where you want the sounds to play and Digital Sound Track does the rest. It gives you complete control of your VCR. With over 5 Mb of special effect samples and MOD files.

## SURFACE PRO FOR LIGHTWAVE 3D \$95



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Objects are also available in Imagine, DXF, and Wavefront formats.

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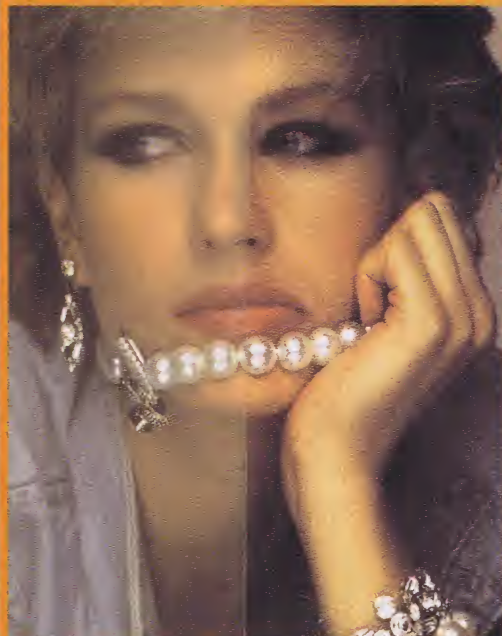
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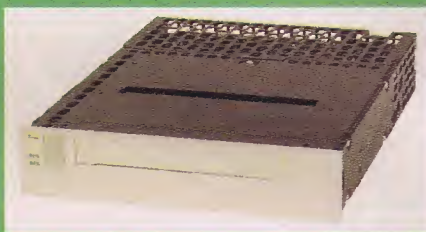


				Internal	External
EXB-4200	3.5"	2GB	233K/sec	\$ 775	\$ 865
EXB-4200C	3.5"	2-4GB	233K/sec	\$ 925	\$1015
EXB-8505	5.25"	5-10*GB	500K/sec	\$1945	\$2045
EXB-8505XL	5.25"	7GB-14*GB	500K/sec	\$2095	\$ 2195

	Each	For Five
Exabyte 8mm(112M) Tape:	\$ 20	\$ 90
ExabyteXL 8mm(160M) Tape: each	\$ 35	\$ 160
Exabyte 8mm Cleaning Tape:	\$ 20	\$ 90
Abekas Driver from ASDG (Amiga, Mac, PC)		\$ Call
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## ExaByte 8mm Tape Drive:

The EXB-8505 provides 5GB to 10GB\* of storage. The EXB-8505XL (extended Length) drive provides 7GB to 14GB\* Both Drives store at 30MB-60MB\*/sec. and have time to clean Light!



Using the Exabyte drive as a tape backup device, you can store up to ten gigabytes of data with a backup utility such as Amiback. Using an inexpensive 8mm tape you can quickly and reliably backup and retrieve files, directories or an entire hard disk.

With the Tapeworm software you can actually mount an Exabyte drive as a harddisk-like system volume, with half a megabyte per second access speed, and rapid tape rewind. The Exabyte drive is used to transfer digital video or computer images to and from the Abekas digital disc recorder format. The Abekas system allows you to read and write D1 digital video in NTSC or PAL formats and to transfer data to other video formats—Betacam, D1, D2, SVHS, etc. The Exabyte drive is ideal for economical single frame recording.

## PowerMacros \$95 for LightWave 3D

## A New Level of Lightwave Mastery

Seventeen new and powerful macros for LightWave 3D and Modeler

**IMPLEMENT NEW FEATURES AND STREAMLINE FUNCTIONS TO SAVE MODELING, SCENE CREATION, AND RENDERING TIME.**

New features include automated scene creation of true 3D explosions (not flat polygons), swarming behavior through the use of Attractor/Repeller techniques and morphing objects along a path.

Three Energy macros will easily create moving swarms by fragmenting objects and animating the pieces along motion paths. Adjustable velocity, inertia and frame delay parameters control natural-seeming interactions of the elements.

With the Layout macros you can render unlimited scenes sequentially to any combination of destinations; transfer scene files with all elements; automate creation of focal distance envelopes; morph objects along a path using bones; create a constant velocity for existing motion paths.

Modeler macros will streamline cloning objects and surfaces; control the angle as well as position of mirrored objects; make it easy to join a polygon to the surface and angle of another; and load an entire scene into Modeler with all objects.

Create pie charts with Business macros; Pie Chart 1 generates a single object, Pie Chart 2 creates separate objects from the pie's pieces.

### ENERGY:

Shatter  
BlowUp  
Swarm

### LAYOUT:

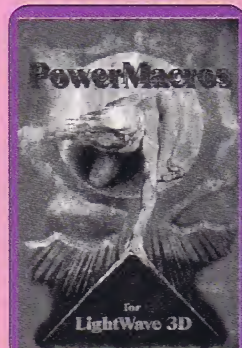
Snake  
Render Batch  
Move Scene  
Smooth Velocity  
Focal Distance

### MODELER:

Attach to Polygon  
Clone Object & Surface  
Flip Around Polygon  
Load From Scene  
Mirror Using Polygon  
Save Pivot Point

### BUSINESS:

Chart1  
Chart2



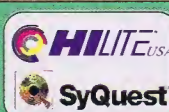
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Drives:	88C	105	200	270
IDE Bare Drive	\$ N/A	\$ 265	\$ N/A	\$ N/A
SCSI Bare Drive	\$ 285	\$ 265	\$ 395	\$ 395
External w/ Cart.	\$ 455	\$ 425	\$ 495	\$ 495
Cartridges:	88MB	105MB	200MB	270MB
1 each for	\$75	\$ 65	\$ 85	\$80
5 each for	\$70	\$ 60	\$ 80	\$70

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Access Time 35sec

HILite DDS-2 DAT	Cartridge	QT-1	QT-5
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**HILite Multi Media CD-ROMS Features:**  
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Drive	Speed	Access	Transfer	Int	Ext
Toshiba XM340IB	2X	200ms	330KB	\$350	\$450
NEC TRIPLE SPEED	3X	195ms	450KB	\$425	\$495
Plexor IMB Cache	4X	Fast	600KB	\$595	\$695
ASIM CDR File System				\$ 65	



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## SPECIAL REPORT:

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Imagine the best 3-D game you've ever played on the Amiga. Well, chances are, it can't touch Doom for the IBM. What makes Doom and its clones so unique?

In a nutshell, Doom allows the player to move smoothly, in first-person, full-screen mode, through large, dark environments rich in stairs, secret places, push-button puzzles, and monsters. It is realistic, intuitive and supremely scary. And addictive.

All this makes for great gameplay, but as you're probably asking, is the Amiga capable of this kind of 3-D free-scrolling action? Yes. Anyone who's tried out the RPGs *Legends of Valour*, *Ambermoon*, or the forthcoming *Robinson's Requiem*, or hacked a path into the 3-D bits of *Jurassic Park*, knows that even a moderately fast Amiga can simulate a texture-mapped scroll with some panache.

All the same, it may be a while before the first commercial 3-D freescrolling titles actually appear on the shelves, but we'll take a look at what's in store.

#### EARLY ARRIVALS

Apache Software is finishing off *Deathmasque*—a two-player Doom-style game—which, at this writing, was expected to be released by England's Alternative Software before Christmas. Imagitec's *Freelancer 2120* is planned for the Amiga, but probably won't appear until sometime in 1995, and one large Amiga-specific publisher has been offered a third-party Doom-derived game. A number of designers are at work on games or game engines. An East Coast coding outfit is exploring the idea of porting *Wolfenstein 3-D* itself.

Trick or Treat (shareware available via CIS, about \$10) is a split-screen, two-player maze game from England that sends you and a pal—cast as a pair of rotund, gun-toting wizards—roaming about a texture-mapped stone village until one of you is reduced to a bloody pulp. It's quite basic—hardly a Doom “deathmatch”—but the scrolling is respectable on anything faster than an 68000, and ducking into the many doorways fixes you up with special equipment (a magnet to mess up your opponent's compass, for instance).

The most promising of the lot, though, is a joystick-driven, Doom-style engine being developed for AGA machines by a young Englishman named Andrew Clitheroe. His game world (as yet unnamed) isn't very large or well-populated. No guns, no butter, no sounds, no tale to tell. Not yet.

What it does have, nevertheless, is trace elements of the rich and ragged atmosphere spun by Doom—that feeling of corners best left unturned, that sense of haunted darkness—and

that a near-empty game world can generate any response beyond clinical interest is a good sign.

The texture-mapped walls, displayed in delightfully grainy resolution, effectively suggest janitorial neglect. At the same time, in extreme closeup, the colors did tend to messily smear together. Here's hoping *Clitheroe* includes a high-res version for fast machines in the final release. (The version I looked at was for a stock A1200.)

Bear in mind: The game wasn't done. Not hardly. Collision detection wasn't in place. You couldn't kill the monster. (Holding the firebutton down and maneuvering the joystick did allow lateral movement, though.) It wasn't hard to crash the program or corrupt the graphics. But it would be hard not to be excited about the engine's potential.

No, this demo's not on the nets. You probably won't see *Clitheroe's* work until it's ready for release. (He's planning to shop the demo with publishers.) The basic technology, however, is on display in a wide range of demos—many modestly interactive, most AGA-only, and none (alas) representing genuine games—available from FTP sites and commercial services. Virtually all of them can be found on Aminet and Portal, and a few have also drifted to services like CIS and GENie. (I've limited the following survey to those that feature texture-mapping and rotation within a game-style environment.)

## Bring on the Demos!

### BSP

John Fehr

BSP 1.0 allows you to stroll through the empty hallways, cellars and sniper nests of the IBM version of Doom on your Amiga. It's a fascinating experience—not to say a discombobulating one—to see those familiar wall textures and rooms flowing by on Big Beige. The speed has been improved for this release. Unfortunately, floor and ceiling textures aren't included (just the walls), so you'll have to walk through doors, and there's not a beastie or object in sight. It may offer more work than reward, however, because you'll need either the shareware or registered version of Doom, as well as access to an IBM.

### CHUNKY MAZE

David Bryson

A solid, effective interactive *Wolfenstein* demo, this features flickering torches and paintings on the walls. (Is that Jane Fonda?) Resolution has been dropped somewhat in the interest of speed, but it's not at all a disagreeable compromise. If we're lucky, the first full game we see may look something like this.

**A—Wow! Exquisite. A must for your games library.**

**B—Great fun. Plenty of entertainment value here.**

**C—Meets expectations. Good, solid performer.**

**D—Disappointing. Lots of room for improvement.**

**F—A real stinker. Don't waste your time.**

**\* You may encounter some problems under this operating system and/or require a PAL/NTSC adapter.**

By Peter Olafson,  
AW Games Editor

#### DENTAWOLF

Alex Amsel/Silltuna Software

This should look familiar; the graphics in this AGA-only demo were ripped from Doom. Unfortunately, the resolution here is less than VGA, and the familiar texture maps, smushed into a central window, don't have quite the same oomph. But this demo does blaze along on a fast A1200, the screen layout is nice, and Amsel indicates he does have his own graphics. He also mentions (without specifics) that there will be more to the game than its models, and he'd like to include a serial link for two-player deathmatches, as well as a map editor.

#### DOGENSTEIN 3-D

Jason C. Doig

You may note the absence of a floor, and observe that the walls are oddly warped. (The water-damage curvature is substan-



BSP "interprets" the IBM version of Doom for your Amiga.

tially repaired in the most recent version.) But the gun-in-gloved-hand in the foreground and the computer terminals and blood-spattered walls make this Wolfish in spirit, and in terms of speed, it fairly cranks. Works with a joystick, too. (Most of the others use the mouse.)

#### DOOMED

Pearl

Surprise: This Australian demo works on an ordinary A500 running 1.3. Bigger surprise: It's full-screen. (Many of the other demos run in a small window to keep up the speed.) And it uses a nice array of colors. However, while Lowest Common

### SPECIAL REPORT: CD32: THE NEXT GENERATION

Thirteen months after the CD32 was released in Europe, most of the software available for the machine isn't *really* CD32 software. It's Amiga software, converted to run comfortably under Kickstart 3.1, with support for the new controller and, sometimes, to the accompaniment of CD-quality sound. But, as we enter the CD32's first full Christmas buying season, the situation is showing signs of change. Some big games are inbound. By the time you read this, we should finally be seeing *Gremlin's* much-awaited *Litil Divil* (a charming amalgam of 3-D arcade exploration and puzzle room); *Guardian* (*Acid Software's* answer to *Starwing*); and *Mirage's* sculpted beat-'em-up, *Rise of the Robots*.

#### TALKIES

Some incremental changes are already kicking in. We've seen the first "talkie" CD-ROM game for the Amiga: *Simon the Sorcerer* (about \$45). A couple more are planned: *Cyberdreams* is bringing over *Dark Seed*, and *Interplay* is doing *Star Trek: 25th Anniversary*. (In French only. *Quel dommage*.)

Simon is about a young magician's quest to recover his missing master from the clutches of the bad wizard Sordid. It's a LucasArts clone from England's *Adventuresoft* (the folks who did the Elvira games for Accolade).

The difference here is that all the lines are read aloud by about a dozen actors. Adding speech continues to be a common practice in disk-to-CD conversions in the IBM world, and it naturally lends the game more personality.

And yet there are risks associated with this addition. Playing a good adventure is like reading a good book: After a while, you begin to hear the characters' voices in your head, filtered through your own experience, even without the ben-

efit of a "talkie" version. Having someone else's voice superimposed atop the one between your ears can either complement that feeling . . . or utterly violate it.

Chris Barrie and the nine other players here do a pretty nice job while not staying entirely clear of this trap. (To be fair, no one could.) Barrie doesn't have *quite* the voice I had in mind for Simon's little magician the first time I played the game. It's a little too grownup. But it's not totally foreign, either, and the game's tenor improves discernibly with real people standing behind it.

#### COMPILATIONS

The voices are made possible by the CD's immense storage capacity. (Simon's includes some 350 megabytes of data—the equivalent of about 420 Amiga OFS disks.) This permits all kinds of interesting possibilities: back catalogues of out-of-print commercial software; shareware games compilations; and the simple bundling of parent games and their data disks.

The first of these has found ultimate fulfillment in *Emerald Mines* (*Almathera*, about \$22). A bit of history: Emerald Mine and E II were a pair of legendary Boulderdash clones released by the German label Kingsoft in the late '80s. They were charming enough to entice you in and excruciatingly difficult enough to have you tearing your hair out in great handfuls before you got through—if you ever did get through—the game. A devoted following sprang up. Thousands of levels were created, along with new graphic sets and sounds, and more than 110 Emerald Mine-based games were placed in the public domain under a wide range of names.

Almathera has roped all 10,000 levels under one umbrella and added a menu system that allows you to play any of them (as well as the original games) with graphics and sounds of your choosing. The graphics are still straight out of 1988, but the

*Continued on p. 62.*

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## GAME PRESERVE

Denominator performance is impressive, Doomed doesn't look much like Doom or even Wolfenstein. The flipside of the bigger picture and slower machine is that you get reduced graphic resolution, and the effect of the consequent pixelization is rather as though you were wearing someone else's glasses.

## FULL MOON Virtual Dreams/Fairlight

Like many of the Euro demos here, this one touches many bases—check out the smooth roll of the moonscape behind the credits—but it starts out with a splendid, too-brief Wolfensteinian bit, supplied with the spookiest wall tiles around. (Unfortunately, it also takes an age to load.)

## HOI SAGA III Team Hoi

From the creators of Hoi, Cognition, and Clockwiser comes this cracking three-disk demo, one dazzling segment of which features not only texture-mapped walls (featuring the little green dino used in Hoi), but also animated texture-mapped wall-tiles—and, since you're walking through water, reflected walls. Technically, this has a big leg up on Wolfenstein. Any chance of turning it into a game? (Note: You may want to turn it off after the first disk, at which point it degenerates into an X-rated Star Trek parody.)

## JABBERWOCKY TEXTURE MAPPER Oliver Groth

Slow on 3000/25 (the author suggests an '040), this interactive demo is nevertheless a fine piece of work. Forget Wolfenstein; Jabberwocky is closer to Doom. Groth has incorporated trans-



## TMapDemo sends your AGA Amiga "scrolling" à la Wolfenstein.

parent gridworks, scrolling walls, multistory walls, patterned floors, columns, and what he describes as "soft camera movement." And the demo will run balkily in half-screen or friskily in a postage stamp-sized window (another bow to Doom). Look for a more advanced "copper" version for the A1200 to follow.

## MINDFLOW Stellar

Another nice set of dusky scrolling hallways in this noninteractive AGA demo, but it doesn't add anything much to this body of work, and the effect's getting a bit tired. What's more impressive here is the endless, hypnotic zoom-in on a fractal wall tile. ►

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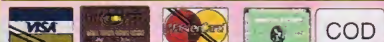
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## ORIGIN Complex

One of the best of the bunch. Buried within other neat game-like effects in this superb, two-disk Eurodemo is a substantial Wolfenstein-cum-Doom segment, with giant rotating wall fans, detailed doorways, and tiles on ceiling and floor. It's a bit balky, even on a fast machine—and no wonder, given the detail level.

## PHOBOS Cyadonia

Borrows its name from Doom's alien-infested base, but otherwise nothing to write home about. This rolling demo has a range of wall tiles, but practices on them the same strange warping effect of the first version of Dogenstein (see below); it's rather like peering out a peephole to see who's at the door.

## POOM Jussi Salmi and Janne Juhola

An essential download. Simply the closest we've come to Doom Amiga, and the recent version 0.2 is an staggering improvement. It's in 256 colors (Poom is AGA only), it's huge, it runs like a deer on an '030, it has textured ceilings and floors—not to mention effects like steam pipes, see-through walls, blinking lights, and doors that open. It's getting close, folks.

## ROT, ROT2, ROT3-D Jason Freund and Gabe Dalbec, with Chris Hames

The original Wolfenstein clone. It's been through two more-

polished generations, with the most recent edition (the final one, say the authors) featuring animated wall tiles—hence the green ooze dripping from the drain pipe—and variable light sourcing. It's good enough that its creators dabbled with the idea of turning it into a full-fledged game, but most offers of help fell through and now they don't have the time. (If you do, the Aztec sources are available on the Aminet.)

## TEXTDEMO5 John Hendrikx

Very nice! This raycasting demo has come quite some ways from the tidy, spartan, TD4. The dungeon features true light sources, and, occasionally, moving ones. The walls actually curve. The frame rate is fine, even in 256-color AGA, and is close to full-screen mode on an '030-based 1200. The map (thoughtfully included) is quite large; there's actually someplace to go in this demo. Versions are also included for ECS and OCS machines. And Hendrikx hints, delightfully, at a game in the works.

## TMAPDEMO Chris Greene

Next to Rot, this AGA offering is probably the best-known among the Wolfenstein-style demos. Written by a former Commodore graphics engineer, it's best described as "Night Gallery"—a shadowy hi-res scroll past cubes with illuminated paintings for sides. The only thing missing is old Rod. Very stylish, and atmospheric in a spooky way that could be the start of something interesting.

## WALLS Mats Knip

Not detailed at all—this uses plain old rectangles—but the speed at which they whip by fairly defies belief: allegedly about 50 frames per second on a stock A500. The author started this with a view to a game, and while he indicates he's dropped that idea, he's still improving the engine with filled-vector objects, windows, and floor patterns.

## WOLF Chris Colman

The first version of this AGA demo was incredible, mainly for its data compression—a 7K LHA archive file blossomed to 422K—but it also had a nice smooth scroll. The newest adds depth shading and toggles between indoor and outdoor mazes. And the smooth scroll has gotten smoother; Wolf gets 22 to 25 frames per second on a stock A1200 and 50 to 59 on an accelerated machine. Slick. Game in the works.

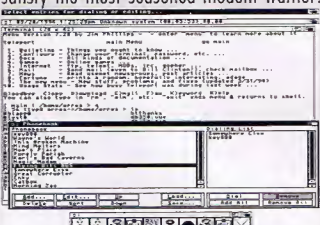
From p. 61.

game is as riveting as ever. (You can tell by the pile of hair next to my chair.) This is a wonderful idea well implemented—it runs on CDTV, A570, and Amiga CD32 as well—and while the execution may prove a bit tricky on NTSC machines (EM is in PAL), it's worth it. You'll literally never be able to stop playing.

The **Humans** (*Mirage*, about \$35), a Lemmings clone from Imagitec, is a far more modest comp, but a good one. It now incorporates the Jurassic Levels data disk, and, free of the incessant swapping and murderously long loads of the disk-based game, becomes the charming, gorgeously-appointed puzzler it always wanted to be. The only problem here is in ▶

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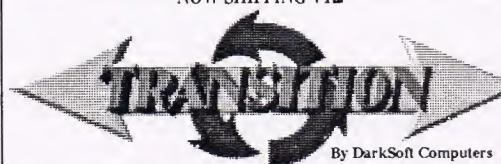
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the level design, which features lots of fruitless running about.

On the other hand, I'm not sure I get the point behind **The Classic Lotus Trilogy** (*Gremlin*, about \$35). They've cobbled together Lotus Turbo Esprit Challenge, Lotus Turbo Challenge II and Lotus III—three licensed racing games that, in their respective days, were all quite good. (Lotus III still holds up well.)

However, they weren't so much three different games as one game in progression, and the family-reunion thing here is rather like having three takes of the same scene. A CD32-specific version of Lotus III with more built-in tracks and extra features would have been a better idea—especially since Europress has dropped plans to bring its texture-mapped racer, Rally, to the Amiga.

**Lock-N-Load's** thousand-game bonanza was, for the most part, a sterling example of a shareware and PD games compilation. **Games, Vols. 1 and 2**, and **Games & Goodies (Multimedia Machine/Better Concepts**, about \$35 each), which predated it, are the "Don'ts" side of this picture.

It's a nice *idea*. The compilers have planted 100 PD and shareware releases—107 on G&G—on each of three CDs and allowed you to boot them via a more-than-presentable interface. There's good to decent stuff strewn across all three—especially on G&G, which is by far the most up-to-date. However, 100 games is a drop in the bucket on CD; the organization (PD and shareware sections) is unhelpful; a number of the games (50 on Vol. 1) require either mouse or keyboard to work properly; and the selections seem generally indiscriminate. Come on now: Space Attack? Space Attack 2?

## UPGRADES

An intermediate category, between reinvention and reissue, is The Upgrade: a CD32 revision of a disk-based game that adds significantly to the atmosphere or playability of the original. The best of these to date is **Gunship 2000** (*MicroProse*, about \$40)—coded by Bob Koon, who did the Amiga conversion of Dune II.

I can't say this feature or that feature is different, and I confess I don't much like flying by joypad. But the feel is great; you get bombarded from every direction, and then there's the enemy as well. Whether its the aggressive intro, or music that bursts out at you, or the plentiful use of voices, or just the disk-access screens, Gunship 2000 never fails to let you know that you're onto something cool and CD-specific.

**Sabre Team** (*Krisalis*, about \$35) was released for standard Amigas a ways back, and the CD32 and A1200 versions have gotten the benefit of the subsequent IBM conversion: The VGA graphics look great, and the controls have been tightened up. The original version of this Breach-like isometric strategy game, in which you run an antiterrorist squad, had problems with its interface; you never knew quite what was going on. Here, you almost always know . . . and get killed anyway. (Love the animated icons!)

Then again, ambient sound should be more plentiful on a CD game. I miss the mouse control (which should have been an option). And I ran into graphical glitches and unrequested mission-restarts—especially from the map screen—even when running in PAL. Sabre Team's not X-Comm, but it's not bad.

## DOWNLOAD DUNGEON

The only thing *Knights 2.4* doesn't provide is another person to play with. This two-player, top-down dungeon crawl offers a lovely range of options and professional graphics that had me wandering around happily even on my lonesome . . . *Green Five* is a classic arcade/puzzler firmly grounded in Out-of-this-World territory, with perhaps the most dazzling intro ever to adorn a shareware game . . . If you ever wondered what became of Mother Lode author Joe Rumsey, well, lately, he's been full of *Hot Air*, a nifty puzzle-platformer with your Mother Lode-sized character conspiring to free balloons from puzzlesome environs. A new version with bigger and better graphics is in the works. (Joe's also the prime mover behind the Paradise version of Netrek for DNet.)

Incinerator's followup is *Castle Incinerator*, which puts a medieval spin on the original's great Missile-Command-goes-3-D concept. (It's available only to registered users of the original.) Nothing really new here, save for the graphics, but I've been messing with this even more than author Pete Storonskij's new game: the demo derby *Mangled Fenders*. Next up for Pete: a puzzle game called *Conundrum* . . . It's rare enough that we get a sophisticated, Breach-like strategy game like Act of War 1.4. Now there are two AOW data disks for the registered version . . . *Raise the Titanic* is among the best adventures built under Virtual Reality Studio, with intelligent puzzles, a quasi-serious approach and, most particularly, a wonderfully murky underwater atmosphere . . . Ordinarily I don't go for color-matching contests like *The Pyramid Game*—there are just too many of them—but this one has a beautiful simplicity (not to mention a great Middle Eastern score) and plays a lively game . . . The new deluxe version of Psycho Squares takes a simple strategy-

game idea and implements it so deftly that the machines just float away, leaving you alone with the game . . . *Global Thermonuclear War* adapts a Scorched Tanks conceit to the War Room maps from the movie *War Games*. Fun, but how about a nice game of chess?

I didn't know what I was getting into when I opened this Pandora's box of AGA games. Another base touched: *Ooze* (widely available, with a companion ECS version) is a pleasant 256-color Othello variant rather in the style of TTR's Thromulus. It's the work of Josh Farley—the principal architect behind a sparkling Shadow of the Beast II-like action/adventure called *Monster Hunter* (which appears doomed to remain unfinished, but is available in playable-demo form) . . . *Zombie Apocalypse II* is a gruesome Op Wolf-style blaster (and an exceptionally well-done one, at that), which shows to great effect what can be done with Blitz Basic II . . . The two-disk *Masquerade* is basically Boulder-dash AGA, while *Slider* gives an elegant AGA twist to the old sliding-block puzzle game. (An ECS version is also included.) Keep an eye out for Slider author Joseph Carlson's and Randall Richards' joint production of *Carnage*, which sounds like Alien Breed or Mean Arenas with modem play . . . Speaking of Breed, *CyberTech* is a fine clone of Team 17's maze shoot-'em-up, Alien Breed . . . Mad Fighters II is basically a continuation of the original licenseware fighting game, but what seemed like crude art seems just plain sloppy here. Much better is *To the Death*, which has commercial quality graphics, but, alas, only one enemy in the PD version . . . *Evil Insects* is yet another Space Invaders, with one small contortion: Your little man fires at an angle to the ceiling, where stones then drop on encroaching insects. Wouldn't an aerosol can be simpler? ■

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- 68EC020 Cpu @ 14 Mhz
- AGA 32-Bit Chipset
- 2 MB Chip RAM
- IDE Hard Drive Controller
- 3.5" Floppy Drive

Supplies are now limited! We have only 31 units left in stock as of press date.

## NEW! A 2200

**\$1199**

\$1599 CDNS

- 68020 Cpu (68030 & 68040 opt.)
- 4 MB RAM
- 210 MB Hard Drive Built-in
- 3.5" Floppy Drive
- Nearly 2X as fast as an Amiga 1200!

A 2200's should be available to shipping by the time you read this!

## Amiga 4000

**\$CALL**

\$CALL CDNS

- 68030 Cpu @ 25 Mhz
- Math Chip Optional
- 6 MB RAM
- 420 MB Hard Drive
- 3.5" Floppy Drive

We have 17 units left now, and more continue to trickle in weekly!

## Amiga 4000T

**\$CALL**

\$CALL CDNS

- 68040 Cpu @ 25 Mhz
- Math Chip built-in
- 6 MB Chip RAM
- SCSI & IDE Drive Controller
- 3.5" Floppy Drive

We are now out of stock on 4000T's, but do have Toaster Oven Packages!

As this went to press, the Commodore buy-out was *still* not finalised. However, we still feel that this change of direction will put the Amiga in it's strongest position ever! We are still committed to, and excited about the future of the Amiga. As supplies become more limited, Amiga's have been more difficult, more expensive and much more time consuming to acquire. However, we *still* have supplies on several models and we *are* continuing to ship units every week. We have shipped over 150 computer this month, so regardless of Roomers you may have read, some Amiga dealers *are* still supplying computers, slow but steady. And, as always, we continue to offer the best possible prices!

## Introducing the New A2200!



### - 32-bit Motorola 68020 CPU

Upgradeable to '030 or '040

### - 4 MB RAM

2 MB Chip & 2 MB Fast (upgradeable to 8 Fast)

### - 210 MB Hard Drive

### - Built-in CD-ROM Controller

### - AGA Chipset, 16 Million Colors

### - Super 80 Graphics Mode

800X600 at 80Hz refresh to reduce flicker

### - Nearly twice as fast as an Amiga 1200!

### - One Expansion Slot

### - Optional Expansion Cards...

486 / 50Mhz IBM Card (January 95)

MPEG Card (January 95)

68030 @ 40Mhz Card (February 95)

68040 @ 40 Mhz Card (March - April 95)

### VLab-Motion Card

**\$1499**

- Digital Non-Linear Editing
- Real Time Digitiser
- Animations & Movies

\$2079CDNS

### Electrohome 1440

**\$429**

- Color MultiSync Monitor
- 15-40Khz, 28mm dot Pitch
- Developed here in Canada!

\$579 CDNS

### PAR Card & 500mb

**\$1999**

- 60 FPS Animation
- True 24-bit output
- with 500 MB Hard Drive

\$2769CDNS

### Video Toaster 3.1

**\$1799**

- Digital Video Effects
- LightWave, ToasterPaint
- Digital Video Effects, More!

\$2769CDNS

### Great Games, \$9 Each

**\$9 ea**

- Chaos Engine, Zool,
- SpellBound, Body Blows,
- Disposable Hero, Nick Faldo Golf,

\$13 CDNS

### Great Games, \$9 Each

**\$9 ea**

- Pinball Fantasies, Soccer Kid,
- Syndicate, Donk, Krusty's Fun
- House, Beast Lord, Trolls, Morph

\$13 CDNS

### Game Pack #2 (all 6!)

**\$25**

- Ultimate Golf, Gunship,
- Toyota Celica GT, SWIV
- Gazza II, Test Drive II: Duel

\$35 CDNS

### Image FX 1.5

**\$129**

- Image Manipulation
- Painting Program Included
- Controls Scanners & 24-bit Cards

\$179 CDNS

### Double Speed CD-Rom

**\$189**

- With Grolliers Encyclopedia
- Cables & Software
- For A2200 only.

\$249 CDNS

### 14,400 Baud Modem

**\$99**

- Send & Receive FAX
- V.42bis, MNP5
- Compatible with GP-FAX

\$135 CDNS

### Deluxe Paint 4.5 (AGA)

**\$69**

- AGA Support (HAM8)
- Animation & Morphing
- THE Amiga Standard!

\$95 CDNS

### WordsWorth WordPro

**\$59**

- WYSIWYG on Screen
- Best WordPro Available
- With Spell Checker

\$79 CDNS

### Shipping & Handling

0-20lbs \$1.00/lb  
Over 20lbs add.50/lb

Next Day & Second Day Air is also available.

These are the average rates for ground service within Canada & the USA and include all regular shipping, handling, duty, brokerage, customs & door to door delivery. Delivery times are not guaranteed. By default, courier insurance only covers you for \$2.00 / lb. UPS/FedEX/Mail will not accept claims for damage or loss without you specifically buying additional insurance. Full coverage insurance is 4% of insured amount.

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# DevWare Video

## DIMENSION TECHNOLOGIES



### COMPOSITE STUDIO

Your ultimate program for controlling ToasterPaint or OpalPaint! New version—now with 70 templates!

You can design your own templates, set shadow depths, do beveling, embossing, and much more. Comes with 40 templates! You can quickly and easily combine, resize, and arrange FrameStores or RGBs. Composite Studio is perfect for the video, multimedia, or broadcast professional. Includes Quickbrush 4000—a \$69.95 retail value! T5294

**\$122.95**

## POWER MACROS



**NEW! 17 Power Tools for LightWave Users!** True 3-D explosions! Particle Swarming, Batch Rendering & more!!

"...Aptly named. The flexibility they provide for modeling, animating and rendering a scene is impressive... easily worth the list price." T5299

- Video Toaster User Magazine.

**\$97.95**

## ALPHA PAINT



**New! High-end Paint Box Performance for your Toaster!** Create stunning network caliber graphics in a snap with this full-featured, 36-bit professional paint solution! \*Get true, REAL-TIME painting in 24 bits—directly on your Toaster's display. \*Full-screen, free-form WYSIWYG painting—with no waiting. \*12-bit Alpha Channel for image texturing, blending and compositing. \*Paint into your Toaster's hardware Video Mixing Channel for unique Live Video Transparency and Soft-Edge Feathering Effects!

T5293 \$Best

### MONTAGE \$299.95

Your solution for video titling, image composition, and effects presentation using your Toaster! T3053

MONTAGE 24	T5068	\$214.95
MONTAGE FONTS I	T5015	\$109.95
MONTAGE POSTSCRIPT MODULE	T5237	Real-time font scaling of Postscript fonts. \$189.95

# 100% TOASTER!

## NEW! CROUTON TOOLS VERSION 1.2

Makes your Toaster more Powerful, Faster and Easier to Use! Three killer programs in one package!



Crouton Tools: Gives you real-time control of your toaster and up to Six Programs at once (memory permitting) for Awesome Editing Power and Streamlined Graphics Creation. New version 1.2 has improved File Handling, Dynamic Program Memory (remembers which programs are running from section to section), Re-designed Tools Strips, New Built-in 3D Section, and new program launchers and support for PAR Card, Composite Studio, Hollywood FX, ToasterFX, Sparks, MultiLayer, V-Lab/V-Lab Motion, Toccata and SoundSwitch. Multi-task like it was truly meant to be! No programming or scripting necessary. Super easy to use!

**Crouton Tools Logger:** This is the Logger/Catalog/Library/Retrieval System for the Toaster/Flyer user! The full-featured Visual (picture-based) Logging system catalogs and retrieves 12 necessary Toaster production elements including: Scenes from videotape, FrameStores, Graphics, CG Books, Digital audio, etc. No other system makes finding and loading elements this fast! Once you have found your element, instantly load it into your Toaster or any other supported program. Instant Organization! Once you have logged something—you can never lose it! Works with any VTR or editing controller.

**New v1.2 Logger has Improved File Handling, New AUTO-LOGGING, BATCH-LOGGING, and AUTO-TAPE LOGGING operations, new PAR Support, and now saves in 2 new formats for easy storage and transfer of Log Book files.**

**Crouton Tools Utilities 1.2:** The easiest and fastest way to manipulate Toaster files on the planet! Supports up to 8 user-specified directory locations. Find, copy, rename, delete and load Toaster files simply and effectively. The straight-forward interface helps prevent mistakes and provides a non-stressful environment for file management control. T5394

"DevWare Video has released the most comprehensive Toaster utility to date..." AV Video, May 1994  
A must-have package for serious video professionals!



**\$149.95**

New From Deskstation Technology...



## NEW • USED • LEASE • RENT • UPGRADE Raptor Plus Rendering Engine

How Fast is Fast?

DeskStation Technology has unleashed the power of the ferocious Raptor Plus rendering engine. The increase in rendering power is so staggering, that frames which took hours to render on a 25MHz Amiga 4000 are devoured in minutes! The NEW Raptor Plus is based on the new 64-bit MIPS R4600/133 MHz processor—the fastest of the MIPS family.

Benchmarked at 27 to 54 times faster than standalone version of LightWave!

### Raptor II Graphics Workstation

Your Ultimate Graphics NT Workstation—Built for Media Production!

Complete with 17" monitor, keyboard, mouse, triple-speed CD-ROM drive, and Windows NT Operating System.

Run ScreamerNet and get speeds up to 15 to 30 times faster than standalone LightWave!

Leasing option available on Raptor Plus/Raptor II. Call for pricing: (619) 679-2226

## TOASTER TOOLKIT 4000 \$74.95



The indispensable collection of utilities for Video Toaster users. Toaster Toolkit 4000 breaks all barriers for harnessing creative control over your Toaster Environment. You raved about Version 1—break free of the mundane with the power tools of Toaster Toolkit 4000! These six power tools allow you to create customized effects and more! T5095

<b>Toaster Sequence Editor</b>	<b>Toaster Project Editor</b>
<b>AnimToFX</b>	<b>FXToAnim</b>
<b>Color Font Converter</b>	<b>FrameStore Compressor</b>

"...an intelligent investment for the Toaster owner who wants to customize, automate and simplify many Toaster tasks." AmigaWorld Magazine

\*Disclaimer: Subject to DevWare's discretion on a case-by-case basis and verification/availability. DevWare is not responsible for competitors' typographical errors.

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We will beat any current nationally advertised price!\*

## Session Minder



### A Complete Client and Project Manager for Video Professionals!

Organize all of your Clients, Projects, Materials, Personnel and Sessions with this powerful new program. Select a client or a project, and with one simple button you will always know exactly what events transpired, how long each session lasted, what materials were used and who was working on it. Perfect for a big production facility and individuals alike. T5371

**\$79.95**

## New Version 1.5! DYNAMIC MOTION MODULE

The easiest, most accurate way to motion-animate with LightWave 3D!

Dynamic Motion Module lets both animation novices and experienced animators rely upon the laws of physics and the computing power of the Amiga to automatically define and create real-world motion and object interaction in LightWave animations. Tell the program how much an object weighs, how fast it's moving, and its direction of travel. DMM calculates the key frames, detects the collisions and makes the objects respond appropriately. Many other features which make it perfect for animation tasks. T5054

Save time and become more productive—and it's available now!

**\$129.95**

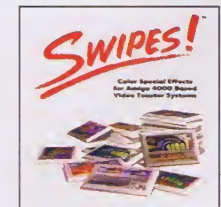
### Mastering Toaster Technology

The step-by-step guide from Video Toaster experts Brent Malneck and Phil Kurz that no Video Toaster customer can do without!



B106 \$39.95

## BYRD'S EYE SOFTWARE



## Swipes! \$124.95

Stunning new color transitions and special effects for Video Toaster 4000 users! Now you can get:

- Dozens of NEW Color Effects!
- Special Effects overlays.
- Color transparency effects.
- Full-color animated transitions.
- Alpha channel dissolves. T5291

See DevWare at the Video Toaster User Expo – December 14 & 15!  
Universal City Hilton Hotel & Towers, Universal City, CA



## Sparks Version 2

The most powerful dynamic animation software available for LightWave users!

Brand new version from Metro GFX! The most powerful dynamic animation software available for LightWave users!

Particle animation system for LightWave 3D. Particles bounce with real world behavior & gravity!

Multiple point gravity wells allow bending and directing the stream, flock or swarm of particles. Control Origin, direction, gravity, quantity, spacing, elasticity and mass. Complete with wind, gusting, flaking and swirling controls—adjustable per axis! Do in seconds what would take days to set up! T5164

**\$68.95!**

## Motion Master

New! Professional Animation

Utilities for LightWave!

**Volume I** T5316 **\$109.95**  
Includes Time Machine, Extract, Path Flock, and Mouse Recorder that all aid in the easy generation of cascading envelopes.

**Volume II** T5317 **\$109.95**  
Includes Child2World, Point, Wobbler and Volume Cube.

**Motion Master I & II** T5321 **\$209.95**

**Sparks + Mot. Mast. I&II** T5324 **\$309.95**

## HOLLYWOOD FX



**New From Synergy International**  
**Hollywood FX** creates amazing 3D effects for video and interactive productions, using Lightwave for the highest quality rendering.

Includes dozens of effects including multiple full motion video windows, 3D morphing transitions, particle effects and more. New libraries of effects will be available on a regular basis!

Make your Toaster create video effects that rival Abekas and ADO systems—at a FRACTION of the COST! PAR users get the added benefit of being able to map video or animated sequences directly onto objects in their Lightwave scenes without exporting first to a large hardrive. Hollywood FX exports an unlimited number of sequences from the PAR as needed.

Post processing with ADPro provides users with unique rotoscoped effects (e.g. processing video through the oil paint or fresco operators) and batch conversion for playback of effects or anims at HAM and 256 screen resolutions. T5298

"...precisely the package you need to push your Video Toaster productions to the next level." September '94 AV Video

**NEW LOW PRICE! \$277.95**

# LightWave 3D - No Toaster Required!



LightWave 3D is the all-in-one photorealistic animation system containing most of the same tools and features as animation systems costing thousands of dollars! Its ease-of-use is unparalleled. Now you can create great 3D graphics and exciting visual effects—such as seen on seaQuest DSV, Babylon 5, Robocop, Unsolved Mysteries and Star Trek: The Next Generation—without paying broadcast-quality. You also don't have to invest in the Toaster either—use your existing 24-bit display card instead! (accelerator card recommended).

The new Version 3.5 of LightWave 3D incorporates new features such as minisliders for numeric input, automatic keyframe adjustment, new procedural textures, automatic fade into the distance lens flares, image output up to 16000 x 16000 pixels and more. LightWave Modeler adds the stunning Metaform Tool which allows you to form organic shapes with complex, curved and smooth surfaces—quickly and easily—from simple boxes!

*No other 3D package offers this much power and flexibility combined with such an intuitive interface!*



**Call us for the best pricing on all NewTek Products:**  
Standalone LightWave 3D, LightWave 3.1 to 3.5 Upgrade, Video Toaster 2.0 to 3.1/3.5 Upgrade and The Video Toaster 4000 itself!

DevWare Video is your Video Toaster System Resource! Call 619-679-2226 for pricing and configuration information on systems with **The Flyer—NewTek's new non-linear editing system!**

AUDIO PUBLICATIONS PRESENTS

## LIGHTWAVE PRO

The monthly newsletter for LightWave 3D animators.

Learn the tricks of the trade from industry professionals!

Call NOW at 1-800-322-2843 for YOUR SUBSCRIPTION.

Save 50% off the Cover Price—Get 1 Year for just \$48!



IMAGEMASTER R/T

**NEW VERSION 1.5!**  
**More Power! More**

**Features! Was \$299!**

If you do image processing, you must have the new **ImageMaster R/T**. Retargetable operations gives you true colors on all popular 24-bit cards and even adjusts the display to compensate for your monitors shortcomings, so what you see is *truly* what you get. Many great features: Thumbnail Image Support, save notes with images, lossless 24-bit compression, Automatic Image File Readers—to access popular file formats, plus the hottest image manipulation tools available on the Amiga...bar none. T5100

**\$68.95!**

## Interworks

**ENLAN-DFS New v2!**  
**Only \$259.95**

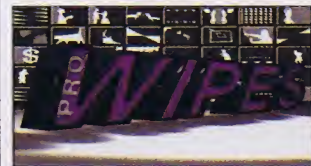
The Ethernet-based, Peer-to-Peer networking solution for the Amiga Toaster. "ENLAN-DFS is to networking what the Video Toaster is to 3D and video work...indispensable." September '94 Video Toaster User.

ENLAN-DFS is the ideal network software for turning your Amigas into powerful, integrated workgroups. Whether it's two, twelve or two hundred systems, ENLAN-DFS is easy to install and use, and is transparent to your application software. T5096

**NO DEDICATED SERVER is required.**

- Ideal for incorporating Raptors into your network.
  - Share drives, directories, and data files across the network.
  - Access printers, tape drives and CD-ROMs through the network.
  - Use NetRexx to send and receive ARexx commands to any system or ARexx port on the network.
  - Security features to restrict access or protect data files using passwords.
  - Integrate software and hardware between systems to maximize your productivity and efficiency.
- Hydra Ethernet Card T5312 **\$299.95**  
ENLAN-DFS + 2 Hydra's T5372 **\$799.95**

## ProWipes Vol I



**New!** 75 wipes and effects for your Toaster!!! 34 Live Action Wipes and 41 assorted 3D Style Wipes, Matte Wipes, Soft Edge Wipes, 16 level Alpha Effects and their own 24bit Effects! T5143

**\$69.95**

## OTHER SOFTWARE

ADPro Conversion Pack	T5146	\$54.95
ADTools Professional	T3600	\$114.95
Aladdin 4D <i>Newest!</i>	T2031	\$247.95
AmiBack Plus Tools <i>New Version!</i>		
	T5165	\$79.95
ANIM Workshop 2	T5104	\$89.95
Art Department Pro 2.5	T1160	\$149.95
Essence Vol I w/Forge	T5408	\$84.95
Essence Vol. II w/Forge	T5409	\$84.95
GenieTools I for Aladdin	T5325	\$34.95
GenieTools II for Aladdin	T5383	\$44.95
Helm Authoring System	T5050	\$89.95
Humanoid for Imagine	T5410	\$154.95
Humanoid for LightWave	T7002	\$154.95
ImageFX <i>New Version 2!</i>	T5411	\$Best
Image Mirror	T5315	\$79.95
Interchange Plus 3.0	T5052	\$99.95
Pixel 3D Professional V2 <i>New!</i>		
	T5158	\$169.95
Playmation	T1068	\$299.95
Scala MM310 <i>New Low Price!</i>		
	T5248	\$299.95
Wavemaker <i>New v2!</i>	T5412	\$Call

## Dimension Technologies



**The Cathedral (Pictured)**  
T5297 **\$47.95**

**The Jurassic Collection**  
LightWave models of T-Rex, Pterodactylus, Gallimimus,

Brachiosaurus and more! T5264 **\$114.95**

**The Wedding Collection** Over 50 wedding-specific objects for LightWave! T5267 **\$54.95**

**The Sports Collection** Over 50 sports objects. T5268 **\$54.95**



**The Music Collection**  
T5282 **\$54.95**

**Wedding, Music & Sports Collection Bundle**  
SAVE! T5283 **\$149.95**

**Odds & Ends** Over 200 objects for LightWave! T5295 **\$42.95**

**Backdrop Construction Kit** T5296 **\$42.95**  
Quickbrush 4000 100 Hi-res 24-bit brushes designed for CG4000. T5266 **\$49.95**

# DevWare Video

# And 100% Amiga!



NEW LOW PRICE!

## A Powerful Morphing System, at an Affordable Price!

Cocoon is a full-featured, professional morphing system without the Rolls Royce price. You can load any IFF image, including AGA formats and save frames as 24-bit, HAM, HAM-8, or 16-level grayscale. Perform warps and morphs using vectors—the easiest way to define and execute morphs. CocoonMorph doesn't use grids or points like other less powerful packages. Instead, Cocoon uses lines and vectors to define your morph which are easier, faster and more intuitive to define and yield more predictable results. Cocoon also incorporates powerful image composition features and allows fine control over the rate of warp/morph of each area or pixel. T5056

**\$49.95**

## Real 3D v2.4



## "Intelligent" 3D Power Tools for Power Users!

Get Particle Animation, Collision Detection, Inverse Kinematics and Skeletal Control—in a full-featured 3D animation, modeling and rendering program. Bowl a strike, swirl 10,000 snowflakes in the wind, make characters dance...and much more. Real 3D v2 is unique—you can have complex 3D objects move and react to their environment with "intelligence," as if they were in the real world—all with one powerful program! T5044

## Real 3D v2.4 + 3-Video Instructional Series Bundle

T5377 **\$459.95**



## DIGITAL PROCESSING SYSTEMS INC.

### Personal Animation Recorder

PAR Card w/1GB HD T5276 **\$Best**

PAR Card w/1.6 GB HD T5277 **\$Best**

Personal TBC IV T5204 **\$Best**

S-Video in and out, 4:2:2 processing for the cleanest possible video image.

Personal Vectorscope T5205 **\$Best**



## Imagine 3.0

The newest release from Impulse—many new features and improvements! Find out why thousands of users have made this their 3D image processing program of choice for making their characters and objects—come alive!

In addition to its improved rendering abilities and object creation tools, v3.0 gives you a complete particle animation system, bones for skeletal control, lens flare effects, global "haze" effects, flexible 3D morphing, spline editing for smooth organic curves, freeform deformation, depth-of-field simulation, animation with acceleration/deceleration, new light shapes and light textures, PostScript font support, and over 100 real-world textures! T5234

**\$349.95**

## Visual Inspirations



### Transporter Ver. 2 \$109.95

**SPECIAL DEVWARE OFFER! Buy Transporter v2 and get Mailing List Manager (OEM version)—FREE!**

Automates sequential frame grabbing with the Sanyo GVR-S950 and Sony EVO-9650 decks. Makes single framing and rotoscoping a simple task with BCD, AmiLink or other V-LAN controllers. New version supports Picasso, Retina, EGS Spectrum Board, Picture-in-Picture, Opalvision & IV-24 24-bit graphics boards. T5342

### Digital Sound Track T5202 \$54.95

New version supports PAR cards! Do pre-recorded audio scripts triggered by SMPTE! Sync audio to video with these controllers: AmiLink, BCD's, V-LAN's, Sanyo GVR-S950, and Sony EVO-9650!

### Batch Factory T5256 \$44.95

Over 350 scripts! Many special effects scripts, Alpha channel routines for ADPro and ImageFX, image conversion from 1 format to another, and much, much more!

### Road Signs New! T5327 \$44.95

50 objects for use in accident reconstruction & outdoor scenes for LightWave.

### SurfacePro New! T5182 \$62.95

A versatile set of seamless LightWave surfaces.

### ArtWorks ClipArt Lib T5194 \$32.95

Over 1500 images in this collection!

### Mailing List Manager T5201 \$24.95

Output directly to PageStream or ProPage for labels, envelopes, mail merge and more. Fully customizable database. OEM version comes w/retail box.

### Pro Textures Combo Collection

Completely seamless real world images. T5192 **\$59.95**

## HYPER CACHE

Professional Version 2.0

## NEW! Get Faster Reads! Faster Writes! Quicker Seek Times! On your drives!

The NEW HyperCache Pro v2 is an extension of your AmigaDOS performance via the addition of complete read and write disk caching—resulting in performance increases of up to 3000%! It can make all of your applications feel as if they were running on a RAM disk. Works with IDE, SCSI, AT and XT hard drives, as well as floppies and CD-ROMs! T5387

**\$49.95**

## New from NOAHJI'S

V Lab Y/C Digitize 30fps video from videotape or laserdisc in full color! Saves sequential frames as YUV, IFF24, or AGA formats T5162 **\$379.95**

### VLAB Motion JPEG Board and Complete System Call!

### Retina ZIII 24-Bit Display Board

w/4MB Get photorealistic display capabilities with this 24-bit graphics card and plenty of "chip ram" for your most intense graphic needs. Go way beyond AGA and still maintain full compatibility. For A3000 or A4000. T5310 **\$639.95**

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**Studio Printer** Print 16.7 million colors or 256 levels of gray on Hewlett Packard Laserjets and Deskjets as well as Canon Color Printers! Supports the latest 600 dpi printers too. True to screen colors with color adjustment with 32bit accuracy. Also includes special drivers for PageStream 2.xx. T3062 **\$63.95**

**Toccata 16** Now available! Full 16bit audio digitizer with 3 Stereo inputs, 1 Mic input and 1 stereo output. Toccata can digitize at up to 48Khz in 16bit, direct to hard disk! Includes onboard mixer and optional ADPCM compression! T5222 **\$374.95**



### MultiFaceCard III T5239 **\$84.95**

Oktagon (SCSI-II A3000/4000) T5240 **\$134.95**

AlfaDrive 3.5" External Floppy Drive for all Amigas T5253 **\$74.95**

AlfaScan Plus 400 DPI Hand Scanner with Touch Up Software T1024 **\$139.95**

Mega Mouse 400 DPI replacement mouse for all Amigas T5243 **\$27.95**

AlfaOptic Optical Mouse 300 DPI fully optical mouse T5288 **\$44.95**

Optical Pen Mouse For graphics professionals. T1017 **\$64.95**

AlfaScan 800 DPI Hand Scan T5242 **\$184.95**

Crystal Trackball T1019 **\$44.95**

Track Ball with "glowing" crystal ball

## PC Task 2

Version 2

The inexpensive and powerful IBM VGA Emulator solution for any Amiga!

This amazing program lets you actually RUN MS-DOS software on your Amiga! PC-Task multitasks—leaving your other Amiga applications free to continue to multitask.

PC-Task is a software-based emulator and, as such, is not as quick as a hardware bridgeboard, but is also hundreds of dollars less! Perfect for your occasional MS-DOS needs. PC-Task supports serial and parallel ports for the PC emulation tool! PC-Task loves accelerators—the faster your Amiga, the faster the emulator runs! T5072

**\$39.95**

## Anti-Gravity

### Snap Maps

Unique textures that trim 3D surfaces into new shapes. Save memory and modeling time in creating photorealistic scenes. Simulate complex structures with 24-bit color maps integrated with bump and clip maps! Use with LightWave 3D, Imagine and Real 3D.

**Fields and Foliage T5402 \$124.95**



### Building Materials & Fabrics

T5403 **\$124.95**

### Get Both

T5404 **\$239.95**

## Moving Textures 100 CD-ROM

22 ready-to-use texture sequences for use in 2D and 3D computer animations. Ideal for animators looking for an easy way to capture the look and motion of natural phenomenon. Works with LightWave 3D, Imagine 3.0, Aladdin 4D, Art Department Professional, Real 3D, and Image FX. Includes videotape.

**Tru Maps:** 2 versions of a Time Lapse cloud animation, crackling fire, smooth burning flames, crisp ocean water, bubbling stream, slow moving smoke.

**FX Maps:** boiling, burst, calm, disturb, jiggle, pour, rough, spots, swift, tide, water\_a, water\_b, waves\_a, waves\_b.

T5405 **\$229.95**

## Polytype Art Collection

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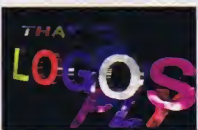
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# DevWare

SERVING THE AMIGA COMMUNITY SINCE 1985  
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We have been the official Public Domain Library of all the best Amiga magazines. Find out why these magazines choose us! The first two letters on each disk indicate the orientation of the disk; WB# general interest - most programs can be run from the workbench, FD# games and entertainment, VO# are video related programs/utilities and DD# advanced-requires thorough knowledge of AmigaDOS/CLI. Thanks to our extensive arsenal of anti-virus software, ALL of our software is guaranteed virus free!

## NEWEST DISKS

**WB148AB: AmigaDeus II** - Rob Baxter's musical sendup to Mozart. Very elaborate interpretations of classics. Requires 1MB Chip RAM.

**WB147: VideoTracker** - Music meets video! "Compose" your own music videos! Has to be seen to be believed! Make your Mac and PC friends green with envy! Supports AGA too!

**VO13: Toaster Textures**-reflection maps, bump maps, surfaces and scenes for LightWave.  
**VO12: MainActor** - Animation processor. Reads/writes/converts many animation/picture formats and supports various graphics boards. Very nice!

**FD103: Rockets AGA** - Be-a-u-tifully done shoot-em up for 1 or 2 players. Requires A1200 or A4000 for AGA graphics.

**FD102AB: StarWoids** - A fun action/adventure shoot-em-up with killer graphics-based on the Star Wars saga. Req. 1MB Chip RAM for PAL.  
**FD101: WipeOut/Defender** - Defender is a virtually perfect clone of the original. Wipeout is a multi-scrolling shoot'em up with great graphics and smooth animation. Req. 1MB.

**FD100: Pengo II** - A clone of the original coin-op classic. Req. 1MB chip RAM for PAL mode.

**FD99: The Shepherd** - A killer Gods/PowerMonger clone...great graphics and sound effects! Req. 1MB

**FD98ABC: Klondike AGA** - Solitaire a la hi-res AGA graphics! Outstanding graphics. Runs in multiscreen or any PAL display mode on AGA Amigas.

**FD97: Bonanza** - Battlesheep-a battleship game, Tanx'n/Staff-see and destroy in a cool 4-way scrolling world. MileStones-play Mile Bournes against the computer and Galactoid-a Galaxian-type game.

**FD96: Tetris Duel AGA** - The next generation Tetris. 2 players play head to head and sabotage each other! Great graphics for AGA machines! Req's A1200 or A4000.

**FD95: Deluxe Galaga** - You should be paying \$40 bucks for this one! Easily one of the best p/d games ever! All kinds of power-ups and silky smooth motion. Req's 1MB Chip RAM for PAL Mode.

**WB146: ImageKit** Loads IFF, JPEG, GIF images, with manipulation like rotation, noise, filters, halftoning, pixelizing, edge detection and more. Req's Workbench 3+.

**WB145: Big Dummies Guide to the Internet** - An interactive AmigaGuide of the information highway and how to tap it!

**WB144: Molecule** - CPK renders space filling representations of atoms and molecules. Req's WB3.0+ and hard drive.

## FUN DISKS

**FD5: Tactical Games** - BullRun a Civil war battle game, in Metro you play the role of a city planner. If you build wisely then your system will be a success, but poor planning will lead to disaster and financial ruin. Very hot! forming.

**FD6: GAMES!** - This disk is chocked full of games including: Checkers, Clue, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.

**FD7: PacMan** - This disk contains several PacMan type games including: PacMan87, MazMan and Zonix.

**FD9: Moria (5.4)** - This has great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!

## WB105AB: Workbench 2+ Extras #2

This set contains the programs that should have been included with WB2+. These powerful utilities take full advantage of the many new capabilities that are available in Workbench 2+. Includes: Tool Manager - a wonderful utility to add programs to your TOOL menu, Virus Protection - Degradar, Icon Enhancers Workbench's "Show All" to display over 40 distinct icons for different types of files, Bitmap Font Editor, Screen Blankers - aka fractals and spinners and swarming bees! Requester Enhancers and CPUBlt. Two disk set, counts as two.

**FD10: HackLite** - A dungeon adventure game. Considered a must-have classic. Play time several weeks or months!

**FD11: Vegas** - Las Vegas Craps; the best Craps

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simulator ever written for a computer. Contains extensive help. Also Thirty-One, VideoPoker and more.

**FD12A&B: Star Trek, The Game** - This is by far one of the best Star Trek games ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1MB and two drives (or hd). No WB 2.04.

**FD13: Board Games** - contains multiplayer Monopoly, Dominoes, Paranoids, and others.  
**FD17: Educational Games** - This disk includes several games for the kids including geography, math, science, and word games, also includes Wheel of Fortune.

**FD20: Tactical Games** - MechForce(3.72): A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.

## THE AMIGAWORLD "BEST-OF" SET

**FD85ABCD: AmigaWorld's Best** - These four disks contain the hottest p/d games! Includes Mother Lode, Moria, Minesweeper, Pong, Intruder Alert, Deluxe PacMan, Rocky and Super Artillery (see Dec. '92 AmigaWorld). Four disk set, counts as three.

**FD22: Arcade Games** - This disk has MoonBase - A true classic game. The best lunar lander game we have ever seen, very challenging.

**FD24: Strategy Games and Others** - Includes Dicey, a yahrtzee type clone, MM a master mind type clone, Flipper an Othello type clone. China a great implementation of Shanghai, Circuit Wars a challenging game based on electronics, and Etrain a computer based model train set construction set.

**FD26: Arcade Games** - Marble-slide, this is a truly commercial quality game. Similar to a Lucas' game named PipeDreams, excellent playability and entertainment. Mutants, a small version of the arcade game of the same name, also SuperBreakout a Pong/Arkanoids type game.

**FD33: Arcade Games** - Freddy a mario brothers type of game, Gerbilis a target practice game. Pipeline, a German interpretation of Pipe Dreams. Tron a light cycles version, and Wetroids a wonderful version of asteroids with a hilarious twist.

**FD34: Games** - Includes WellTrix a derivative of the addictive game of tetris, and new version of BackGammon.

**FD35: Omega (v1.3)** - A dungeon and outdoors adventure game in a similar vein as Hack, Rouge, and Moria. This version is considerably faster and better than all previous versions. Play time-months.

**FD37A&B: Empire** - One of our best! Now with a full-featured graphic front end. Empire is a rich simulation of international politics, economics and war. Modern compatible. Counts as two disks.

**FD39AB: Tobias Star Trek** - This is a new completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Full English Doc's. Excellent!!! Counts as two disks. Requires 512k memory.

**FD43: Game tricks/hints** - A disk full of game cheats, hints, and backdoors for all of your favorite games. Hints for Shadow of the Beast, Dungeon Master, Space Ace, Leisure Suit Larry, Moria, Neuromancer, and over 300 more games.

**FD44: Game** - Mechfight is an out of this world role-playing adventure comparable to Hack and Moria. The setting, interplanetary colonies and space stations. Your quest is to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in mortal combat against robots and alien life forms, pick up a new amiga 9000. Most of all, don't forget to stay alive...

**FD45: Arcade** - Three good shoot'em up games, Batman, save the city from the Joker. DriveWar, gangsters are moving in on your territory, try and stop them! Web, a spidery, bug affair of eat or be eaten.

**FD48: Puzzles** - Contains Cuzzle - a very well done full featured crossword puzzle game and generator, Concentration - like the card game. Hollywood Trivia, a very large set of trivia questions on topics including StarTrek TNG, HitchHikers Guide, Indiana Jones & StarWars.

**FD49: Chaos Cheats** - This disk contains everything you wanted to know about for Chaos Strikes Back, including full maps, spells, object locations, super characters and more.

**FD50: Submarine Game** - Sealance, one and a half

years in the making, this an outstanding submarine tactical game. Commercial quality, highly recommended.

**FD52: Classics Games** - PetersQuest a well done Mario brothers type of game. Jybm, a two player missile command clone, and Vstank, a tank commander game.

**FD53: Great Arcade** - On this disk is a wonderful implementation of the ever popular classic arcade game Defender. Also contains Air Race, a WWII flying ace arcade game, and Psychoblast, a new creation idea game.

**FD54: FoodFight** - Contains Galactic FoodFight, a wacky spaced out arcade game loaded with shooting ketchup, and hamburger eating monsters, and flying pizzas. Sorry, no WorkBench 2+.

**FD57: Arcade Games** - Includes 2 true commercial quality games. MegaBall is the successor to Ball; features 5 full musical scores, multiple levels and adding game play. Gravity Attack is a psychadelic trip through several different worlds--each different.

**FD58: GAMES!** - Includes Steinschlag; a great Tetris clone from Germany with music. SCombat: simulate battle between up to 40 players & monsters. Imperium Romanum: Battle up to 4 players for control of the Mediterranean in this Risk-esque game.

**FD59: Potpourri** - Xenon III is an almost exact clone of the commercial game of the same name...a great shoot'em up. Crossword will take lists of words & automatically generate crossword puzzles for any Epson printer.

**FD60: Games** - In Nebula, race over a 3-D world to destroy enemy installations. Inferno; a great Dr. Mario clone. Enigma; is it a game or a puzzle?

**FD61: Games** - Solitaire; great graphics; plays two versions. Klides an interesting piece of eye candy. Extreme Violence; 2 player kill or be killed game. YATC; A Tetris clone with artificial intelligence. Genesis; creates realistic 3-d fractal worlds.

**FD62: Pom-Pom Gunner** - An extremely smooth and well done World War II gunner simulation. Requires 1 meg of chip memory.

**FD64: Games** - Wizzy's Quest; a great 50 level game with great graphics. Cubus - a 3-dimensional Tetris type game (rotate and move in 3 dimensions). Husker Du - Colors and pattern rather than shape in this Tetris-esque game; 5 screens and 3 levels of difficulty. Req. Fat Agnus (1 Meg Chip RAM).

**FD67: Arcade** - Includes Llamatron a well-done 'Robotron' clone. Hate is a 'terrific' commercial grade Zaxxon clone with multiple levels/worlds and smooth diagonal scrolling...a 10!

**FD68: Potpourri** - Eternal Rome is a strategic simulation of the Roman Empire including military, diplomatic, political, economic and social factors. Lord of Hosts is a board strategy game for 2 players. In Moonshine, you've got to get the hootch across the state line--a great rolling, scrolling driving game!

**FD69: MindGames** - Had enough of shoot'em up blasting games? Relax, and let these 21 games exercise your mind instead of your wrist.

**FD70: SpaceGames** - Contains AmiGolds...finally! an Asteroids game that takes advantage of the Amiga--totally configurable with great sound & graphics. In Cosmostruction the object of the game is for each Cosmostruction team to acquire the most points while constructing energy ducts between the space stations and planetoids.

**FD71A&B: Star Trek: TNG Trivia Challenge** - So you think you know The Next Generation, huh? Complete with fantastic sampled sounds and digitized images, this game even looks and sounds like a genuine Star Trek terminal! Requires 2 floppy drives or hard drive. Two disk set, counts as two.

**FD72ABC: Sword of the Warlock** - This is a demo version of a great public domain graphic dungeon adventure game. The adventure spans three diskettes and allows two players to go adventuring. The game has a 'Bards Tale' feel to it. Three disk set, counts as 2. Requires 1 meg and 2 floppy drives or HD.

**FD73: Arcade Series** - Intruder Alert! is a MULTI-level 'Berserk' clone. Features smooth gameplay, great graphics & digitized sounds.

**FD93: IBM** - Not one, but TWO IBM emulators that will allow the running of MS-DOS software with Amiga programs! Comes complete with programs to turn your Amiga floppy drives into 720K IBM compatible drives. Also check out our PC-Task emulator on our DevWare Video page.

**FD74: Arcade Series** - RingWar is an "Outer Limits" clone with vectorized graphics. MotherLode is a "Lode Runner" clone with 50 levels! In BlitzTanks, they're coming at you from all directions!! Call in air strikes and use your heavy artillery to survive!

**FD75: Arcade Series** - Descender is a clone of the classic arcade game "Tempest"; complete with vectorized graphics. Tanx is the classic battle of trajectories and inertia between two tanks--incredibly well done! Search is a maze game unlike any other--included is a level editor too. (Tanx req. 1 meg chip memory)

**FD77: Arcade Series** - Galaga'92 is a clone of the arcade game of the same name with several game-play enhancements--with smooth, sharp graphics it's better than the original! Pharaohs Curse is a clone of the original C64 classic. Diplomacy is a beautifully computerized version of the Avalon Hill board game--conquer or be conquered! Galaga requires 1meg chip memory.

**FD78: Potpourri** - Lothian is a great Ultima-type adventure game with great graphics. Rocky is a Boulderdash-type clone.

**FD79: Addams Family Quiz** - They're delightfully creepy and spooky and now they're in your Amiga!

Classic digitized graphics and sound samples make this a real crowd-pleaser. Wait till you "talk with Cousin Itt!"

**FD80: Technoban** - If you like logic puzzles, this disk is for you! Create your own puzzles with the built-in editor or play the many pre-made ones. Requires Fat Agnus (1 MB chip memory).

**FD81: SuperGames** - Some of the best games--Donkey Kong is better than the original with an extra level! Frantic Freddie and Trailblazer are both fast-paced arcade games. Mad Bomber is the classic game of "Kaboom" redone with an Amiga flare. ALL of these games are excellent! Req. 1MB Chip memory.

**FD82: Intrepid** - In the Arctic ice, you control a tank on a mission to rescue hostages in this superbly crafted Amiga original.

**FD83: Arcade Series** - Contains Croaker and Squamable, two great clones of the arcade games "Frogger" and "Scramble."

**FD84: Games!** Deluxe PacMan is better than the original--20+ mazes, special "power-ups" with outstanding graphics. ThinkAmania is the classic game of concentration--with beautifully drawn HiRes images.

**FD86: UChess** - The strongest playing Chess program available for the Amiga period. Requires 68030+, Workbench 2+, 4MB RAM. Supports AGA graphics.

**FD87: OAD** - A commercial quality game--similar to Marble Madness in many ways, but allows to computers to link & play together...see how many of the 200 landscapes you can complete without having to get the hint book!

**FD88: Am Boulderdash** - a clone of the original classic; extremely well done with level editor, 2 complete sets of levels. Req. WB 2+.

**FD89: Kastle Kurquat** - a thorough, entertaining and challenging maze/adventure game. Great soundtrack and graphics. Req's 1MB Chip RAM (for PAL mode).

**FD90: Conquest & Dominion** - Conquer the known world and maintain dominion over it--a microcosm of economic survival.

**FD91: Popeye** - A clone of the original C-64 classic--Amiga style with enhanced graphics. Requires 1MB chip RAM.

**FD92: Blast'em** - contains Scorched Tanks--a tank battle with futuristic weapons/defenses and great graphics. Galactoid is a Galaxian/Space Invaders game completely Amiga-tized.

**FD93: MegaBall AGA** - This is the one you've been waiting for! Updated to knock your socks off! The best p/d game for the Amiga. Req.'s WB2+ & 1MB RAM. Show off that AGA!

**FD94: Scorched Tanks** - completely updated and compatible with AGA/3.0! 60 different ways to blow each other away! An outstanding game of, angles, trajectories & unique arsenals!

## WORKBENCH DISKS

**WB4: Telecommunication** - several excellent PD communication programs designed to get you on line quickly and easily. Access (1.42) an ANSI term program. Comm (1.34), one of the best, Jrcomm and Handshake a full featured VT. See also WB102, WB115 and WB136.

**WB5: Fonts #1** - Several fonts (35) for the Amiga, also included are five PageStream fonts, and ShowFont - a font display program.

**WB7: Clip Art** - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US & State maps, and more.

**WB9: Icons** - Truly a multitude of various types and kinds. Also includes IconMeister, IconLab, and others great utilities to help generate icons.

**WB10: Virus Killers** - The latest and best VirusX(4.01), Kv(2.1), and ZeroVirus!!! v1.10 WinDisk Utilities. This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk recovery, file recovery, archiving and organizing, and all sorts of file manipulation. Also includes SID, the best file and directory display program for the Amiga, greatly reduces the need for a CLI, a must have for WB 1.3!

**WB13AB: Printer Drivers and Generator** - over 70 different drivers (including HP LaserJet 3 & 4), also includes a printer-driver generator. 2 disk set. See also WB132,133

**WB15: Business** - Contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).

**WB16: Business** - Contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and Pennywise, a good "Cash Book" accounting program for home or office.

**WB18: Word/Text Processors** - This disk contains the best editors. Includes TextPlus (v2.2e) a word processor, Dme(v1.35) a great programmers editor with strong macro features, TexED(v2.8) an enhanced Emacs editor, and a spell checker.

**WB19ABCD: Font Set** This collection contains over 100 spellables for use with Professional Page-Stream 3.0, PageStream 2.1. These fonts will occupy any size word or d. documents printer with no lagges, thanks to advanced fonts. Very professional - 5 disk set, counts as 4.

**WB22: Fonts #3** - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.

**WB25: Educational** - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's database to generate detailed

maps of any entered user global coordinates. Also Paradox, a great demonstration of Albert Einstein General Theory of Relativity.

**WB26: Disk Utilities #2** - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups. FileMast, a binary file editor and label printer. Disk label printer, with very powerful features.

**WB27: Nagel** - 26 Patrick Nagel IFF pictures of beautiful women.

**WB29: Graphics and Sound** - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes MandelMountains, a realistic terrain generator. Fracgen, generated recursive fractals from user input. Mandelbrot and Tmandel, two fast Mandelbrot generators...also Mostra, will display ALL IFF's. Sound, a great IFF sound player--will play anything. Try this, you'll love it!

**WB33: Circuit Board Design** - several terrific routines for the electronic enthusiast. Includes PCBtool, a circuit board design tool. LogicLab, circuit logic tester. Moad (1.26), a new release of this PD CAD program--now comes with pre-drawn common circuit components for insertion into schematics.

**WB35: 3D Graphics** - Several 3D modeling/ray tracing programs. 3DFonts, 3DFontMaker, Make3DShape.

**WB36: Graphics** - Create stunning graphical images. Includes MPatch, creates swirling galaxy images. Roses, produce wonderful variations of images that are symmetrically similar to a rose. RayShade, a very good raytracing program--create your own beautiful 3D graphics.

**WB118: Amiga Beginner** - You asked for it! A complete tutorial for the beginner on using the Amiga. Starts you off at the power-switch and takes you through to the GUI/Shell and all points in between. Bonus! Also included are 16 color icons to replace every icon in your 2.0+ Workbench.

**WB37: Educational** - Games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15

**WB40: Music** - "CD on a disk", 90 minutes of modern music on this well presented collection. Req. 2 Drives or HD.

**WB41: Music** - MED (3.20), an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. PD software at its finest.

**WB43: Business** - This disk contains AnalytCalc, probably the best PD spread-sheet program for the Amiga--a full featured spreadsheet with many features expected in a commercial package. 1.2 MB required!

**WB46: Clip Art** - HiRes IFF clip art with the following motifs - embellishments (borders, doodads), people, and transportation.

**WB48: Clip Art** - HiRes IFF clip art with the following motifs - Holidays, music, medical, and miscellaneous.

**WB49ABC: Animation Sampler** - On this three disk sampler set (counts as two disks) are some of the best animations that have been created over the last three years. Several examples of "Movie" type animations some with spectacular raytraced reality. Also several European style or "Demo" animation with incredible graphics and sound. These truly show off the creative edge of an Amiga!

**WB50: Animation** - Seven of the best European style animations or "Demos", including - scientific 451, subway to U.S. entrant, also our favorite, sunrise, thirteenth night, waves, and wow.

**WB51: Animation** - On this disk are two excellent movie style animations including ShipRotation - a futuristic space-ship orbiting a surrealistic world (great!), and RV-3, a DPaintIII anim of a rather wacked out airplane.

**WB53: Graphics** - The disk contains C-light, the easiest to use raytracing we have seen to date. This one started out life as a full featured commercial product similar to Sculpt3D. Raytracing programs can generate stunning, realistically shaded objects. Also sMovie, a full featured video text viewer similar to ProVideo and Broadcast Titrer. Great video scrolling, wipes, special effects, & more.

**WB54: Printing** - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio - a well implemented all-purpose printer utility with a very comfortable graphic interface and many advanced features. Lila, with ease print ASCII files to a PostScript printer, and many more.

**WB55: Application** - XCopyIII - a full featured disk copier, make backups of copy protected disks. RoadRoute - find the quickest route from one city to another-highway description included. Diary, a diary program like "Doozie Houser M.D.". Magman, a database tailored to maintain records on articles and publications.

**WB59: Business** - contains a great very full featured stock market technical analysis and tracking program--also an appointment calendar, and more.

**WB61: Intermediate Utilities** - Includes programs to help to drastically decrease flicker on your interlaced workbench screen--AntiFlick, an AtariST emulator, an EProm programmer, turn your Amiga into an eight channel digital data analyzer or oscilloscope, and more.

**WB62: MIDI Utilities** - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a MIDI sysex handler, a MIDI recorder with timebase, display MIDI info and file sequence player.

**WB63: Disk Utilities #3** - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, disk track recovery, and forced disk validation of corrupt disks.

**WB66: Icons #2** - Lots of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and into structures.

**WB68: Music Utilities** - several good utilities for the Amiga music enthusiast. Includes Noisetracker, a great music creation program. Sonix2MOD, converts sonix to .MOD files which then can be used by Noisetracker, Soundtracker, or MED. SpeakerSim, a speaker design tool demo. Wondersound is an additive harmonic design tool.

**WB69: Music** - This disk has over 90 minutes of classical and modern music for you Amiga.

**WB70: Desk Top Pub** - Atcp, transfer Macintosh screen fonts, Mac or IBM format. AFM metric files, to Amiga screen fonts and PPage, metric files. With this program open the door to the libraries of Adobe and PostScript type! Calendar, month templates in PageStream format. Post, a full featured Postscript Interpreter with file display and print utility.

**WB72: Directory Utilities** - The programs on this disk are very powerful and come highly recommended. They are designed to make CLI and shell tasks virtually obsolete. These programs make the Amiga much easier to learn and use. From the Workbench environment, do file and directory manipulation including copying, deleting, moving, display text, edit text, view images, playing sounds, create directories, find files, group unarchiving--with many user definable functions and options, and much more more.

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**QT3: The A64 PACKAGE VERSION 3** - A very complete Commodore 64 emulator. Supports any CPU and is fully compatible with WB1.3 & 2.0 and now 3.0! This version includes a special adapter that will allow you to connect your 64's 1541 disk drive to your parallel port of your Amiga for total emulation. All-new transfer software! Special price \$59.95 -with hardware.

**WB74: System Utilities** - Machill, our favorite mouse, hotkey, screen blanker, autoCLI and auto-point all in one program. Iconize, a 16 color icon editor. NoClick, stop drive clicking. ReMapIcon, convert 1.3 icons to 2.0, and more.

**WB75: Music** - Over 100 instruments files (.inst) and sample sound files (.ss) for your music programs.

**WB76: Applications** - Contains Stichey - an often requested knitting design program. Lotto, a rather complete lottery tracking and prediction utility. SSS, this screen capture program can grab almost any screen including games. Today, a personal calendar. Tarot, fortune teller and a grammar checker.

**WB79: Home & Business Accounting** - Includes Checkbook Acct (1.0). LCDCalc, this well done calculator has a very large display and operates from the keyboard or mouse. Mileage Master, monitor your automobile mileage with this mileage log. Grammar, a grammar checker and WordTime, find out what time it is in up to 50 global cities.

**WB80: Graphics** - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings.... and surreal images often consisting of highly polished spheres and objects. 3D Master is the most powerful EASY-TO-USE of its kind that we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars.

**WB81: Great Applications** - DataEasy a very easy to use, database program. Don't let the easy of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes TypeTut, a good typing tutor. RLC, a full featured label printer. Banner, a multi-font banner maker and Budget, a home accounting in a program.

**WB82: Animations** - Four full-length, great movie style animations. Including, Coyote, JugglerII, GhostPool, and Mechanix. 2 disk set, counts as 11 Coyote req. 1.5 MB.

**WB83: Computer Art** - this disk has some of the best Amiga generated computer art that we have collected in the past 5 years.

**WB84: General Enjoyment** - A fun filled disk that contains, I-Ching the ancient chinese art of fortune telling, FastLife, an extremely fast life implementation and several "Schwabe" type hacks that are loads of fun to watch. A very delightful disk, recommended.

**WB88ABC: The Complete Bible** - A 3 disk set (counts as three), with the entire text New Testament and Torah (Old Testament). 1MB.

**WB89: Education** - Fish, not your everyday electric eel, but a fun to experiment with simulated fish aquarium. Also contains a well done math quizzer, history, religion, geography and more.

**WB91: AV Educational** - Flags of Europe, beautifully presents all of the flags of Europe along with maps and geographic statistics of the Countries. Requires AmigaVision.

**WB93: Workbench 1.3 Extras #2** - This disk contains the utilities that Commodore should have shipped with the Amiga; VirusX4.01, Snap, FixDisk (recover corrupt/deleted files), Disk Optimizer (floppy & hard), Machill (screen blanker, hotkey, mouse accel., macro, clock utility), GOMF (a guru-buster) and PrintStudio.

**WB95: Checkbook Accountant 2.1** - This program is definitely commercial grade; balance your checkbook in two minutes!!! Full budgeting, transaction recording and report generation.

**WB96: Dupers** - Contains XcopyIII & Nib which will backup copy-protected programs. FreeCopy removes copy-protection from several programs, and SuperDuper will crank-out fast AmigaDOS copies.

**WB98: Business** - Includes BBaseII a nice, powerful database; BizCalc--a personal or mortgage loan calculator with amortization capabilities, Loop--a flowchart maker, Formmaker - design pro-looking forms on your Epson LQ-2500 compatible printer.

**WB99: Lifestyles** - Includes AGene--family tree program that tracks up to 600 people/marriages/etc. Landscape is a backyard CAD program to create gardens/landscapes, Loom simulates an 8 harness loom; experiment with design in an instant feedback environment.

**WB101: Chemesthetics** - is a program that displays molecules as a calotte model. This kind of display contains a certain esthetic attitude, even extremely poisonous molecules like nicotine or dioxine look quite nice.

**WB102: Communications** - Contains the tour-de-force programs NComm 1.921 and VT100-29B. Automatic Zmodem protocols, XPR protocol support, full VT100 emulation. NComm's script language is so powerful it comes with a script file that creates a full-featured BBS system. See also WB115.

**WB103: Music** - Contains 12 "great" Soundtracker/MED music MODULES--complete with programmable/shuffle player...8 bit audio never sounded so hot! 2 disk set counts as 2.

**WB104: GrabBag** - Q&A Trivia (requires AmigaVision) is a trivia game for 1/2 players...add your own questions to customize the difficulty level! Sysinfo is great for telling you how fast/slow your computer is, what boards are installed, chipsets, etc. AmiGazer will plot stars in the heaven from any position on earth complete with magnitudes and constellation identification.

**WB107AB: DrawMap** - This program generates representations such as hemispherical views, and orbital views of the Earth's surface, complete with national boundaries. Screens can be printed or saved to disk as standard IFF files. Full user-configurable online help facility. 68020+ version included. Req. 1.2MB

**WB109: VerseWise** - Display, search and print The New Testament to text files to your printer.

**WB112: Productivity/Business** - Stock Analysis allows automated downloading of stock data with full analysis capabilities (requires modem). StoreShare will allow you to log magazines and articles with full search/scan/print capabilities.

**WB113: SID II** - Why pay 40 bucks for a directory utility, when this one will do it all plus much more! A truly professional-caliber program. SID 1 was our best. Now, completely rewritten, SID 2 sets the standards for all others to follow.

**WB114: Fonts #4** - Contains 36 bitmap fonts.

**WB116: Databases** - This is what you've been looking for! Contains 5 uniquely specialized database programs (some demos) for tracking: Videotapes, CD's, Magazine Articles, Comic Books and Trading Cards!

**WB117: Religion** - Contains Scripture\_Mem (aids in memorizing verses and passages) and in Pauls Journey, you are Paul of Tarsus exploring the Mediterranean and preaching just as paul did. Req. 1 MB RAM.

**WB120: Grinder** - a complete graphics conversion package that supports GIF's, Jpeg, Atari ST(Neochrome & Degas), PCX, Targa, TIFF, Ham-E and IFF format pictures.

**WB121: ProPage 3 Enhancer** - This disk contains over 40 "Genies" for use with ProPage 3.0, including useful ones like Make Pie Chart and Resize Text to Fit Box to name a few. Also includes structured & bitmap clipart for unique borders...a must have for all PPage 3 users.

**WB122: System Optimizer** - KCommodity gives you memory meters, mouse/keyboard enhancements, online timers plus many others...too numerous to list here. ReOrg will optimize hard and floppy-disks for a big speed increase. HDMem will allow up to 2 megs of hard-drive space for virtual memory!!! (Req. 68020+ w/MMU). All require WB2.0+.

**WB123AB: Flags of the World** - same as WB124, but for 1.3. Req. 1MB RAM.

**WB124: Flags of the World** - Two modes: click and learn or a game to test your knowledge...Great graphics--fantastic learning tool. Has current Russia & Yugoslavia republics. Req. WB 2.0+ and 1 MB RAM.

**WB126: EdPlayer** - musicMOD player that looks, acts and plays like your CD player...AmigaWorld's #1 MOD utility. Plus MOD songs.

**WB127: Blankers** - Contains over 20 screen blankers. Most run on Workbench 1.3 and up...a few require 2.0+.

**WB128: ColorFonts** - Contains 12 color bitmap fonts for use with DPaint or other software that supports ColorFonts. Perfect for titling.

**WB129: Super Virus Killer** - From Safe Hex Int'l, who catalogs and kills Amiga Viruses worldwide--a complete virus protection system. Req. WB2+

**WB130: ToolManager 2** - The ultimate tool manager for your Workbench. Add animated icons, sound effects and "docks" of programs to your WB...very useful! Req. 2.0+ and hard-disk.

**WB131: Magic Workbench** - Make your 2.04+ Workbench sizzle with these 8-color dithered icons. Easy auto-installs in minutes. Req's WB2.04+ and hard drive.

**WB132: Canon Studio** - Special printer Preferences editor and drivers for BJC 800&880, LBP, A1, A2, BJC 800, BJ 5, 10, 20, 200, 230, 300, 130.

**WB133: Panasonic Studio** - Special printer Preferences editor and driver system for all Panasonic 9 & 24-pin printers.

**WB134: 3.0/AGA Blanker** - BlitzBlanker for WB 3.0+ 14 different blankers to really show off your

AGA machine!

**WB135: 3.0 Extras #1** - 13+utilities for WB 3.0, several must-haves for getting the most out of your new graphics modes!

**WB136: Terminus** - WB2.0+ Modem/Terminal program. Full featured: scripts/screenmodes/overscan + all popular transfer protocols.

**WB137: The ARexx Guide** - Full AmigaGuide (included) document to teach you ARexx!!! Tip-filled with easy cross-referencing!

**WB138: 3.0 Extras #2** - Another disk chocked full of utilities to unleash the power of Workbench 3.0 and AGA!!

**WB139: MIDI Performance Manager** - A utility to manage MIDI synthesizers and other MIDI equipment. Requires WB 2+.

**WB140: Mr. Backup** - A powerful hard-drive backup utility with full tape-drive support. Formally commercial. Req. WB2+

**WB142: JCGraph** A beautiful graphic package...pie charts, 3D charts of all types...exports EPS, IFF & Draw2000 formats!

**WB143: ViewTek** THE definitive display utility! Versions included for Amiga, DCTV, EGS, FC24, Picasso, OpalVision, Retina, IV24. Also includes new MAKEANIM7 utility.

**VIDEO DISKS /**

**VO1: Graphics** - Includes Freepaint, a Deluxe-Paint workalike. AGraph creates colorful pie, bar and line graphs. PicBase shows reduced versions of all your IFF pictures and tracks which disk or where in your system that picture is.

**VO2: Stillstore** - Used to create the "over the shoulder" graphic inserts, ala the 11:00 news!

**VO3: Image Utils** - JPEG converts between JPEG and 24-bit IFF. ImageLab performs many effects from simple averaging to fast Fourier transforms! VideoToolsOnTap does fades, colorbar & graybar generation and other useful video functions. TitleGen will do crawling credits/titles.

**VO5: Modelling** - Vertex allows you to create 3D objects without using the abstract X, Y and Z views! Vertex can read Sculpt, Turbo Silver, Imagine, LightWave, GEO and WaveFront formats! MagicTween will metamorphose any two pictures by automatically animating the "in-between" frames!

**VO6: Modelling Objects** - Contains 20 vector objects in Imagine format. These are perfect for use with Imagine or with our very own VO5 diskette!

**VO7: StarTrek Objects** - Contains the USS Reliant, NCC-1701D (Star Trek: TNG), a Ferengi Marauder ship. As an added bonus, contains a fully detailed Porsche 911 and Apache Attack Helicopter, all in Imagine format.

**VO8: CompuGraphic Fonts** - Contains 2 clipart-style fonts and 4 actual typefaces for use with WB2.04 and its Fountain utility. Great for desktop publishing and/or video projects.

**VO9: 24-Bit** - Contains Rend24 which allows you to proof Toaster-generated 24-bit animations. Also contains utilities to convert IFF's to IBM VGA/Windows readable format. Also includes ViewTek - the latest ANIM player with support for ANIM 5/7/8 formats!

**DEV DISKS /**

**DD45: ARexx Programs** - This disk contains several useful ARexx programs and examples. PopCLID4 the latest of a must-have utility.

**DD47: Pascal** - This disk contains everything needed to program in Pascal. Includes A68k, 68000 assembler. Blink, linking software and PCO (1.0), a modes Pascal sub-set compiler.

**DD49: C Compiler** - contains zcc(1.01) fully K&R zcc(1.0) front end, A68k(1.2) assembler, Blink linker.

**DD50: ARexx #2** - a must have set of tutorials on ARexx and several useful examples and utilities for ARexx development.

**DD51: Circuit Analysis** - Aspic (2.3), a full featured program for electric circuit analysis.

**DD52: Scientific** - Includes Elements, an incredibly well done periodic table program with source. Scientific plotting, over 600k of Lattice C source routines that can be included in your own programs!

**DD54: Compression** - This disk is loaded with ALL of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc, Lharc, Lhwrap, DMS, Pkarc, PowerPackera must have by all. Zip, Warp, and Zoo. Also IFFCompr, an excellent compression for IFF files.

**DD56: ARP** - On this disk you will find the complete ARP3.0 release including the full user docs, the full Developers guide, and Conman (1.4). ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to use from the CLI!

**DD57: Advanced Utilities** - Msh-like Cross-dos- copies files to and from MS-DOS. Pal-NTSC, convert any PAL system to NTSC and vice versa (if you have >512K chip memory). Also several utilities that improve your startup-sequence.

**DD63: Tests** - Contains all of the classic speed tests and system checks we could find. Includes CPU Speed, Sieve, Salvage, STU, a full featured system diagnostic tool. Memory integrity test, Disk integrity test, and more.

**DD71AB: C Compiler** - Contains D.C.E., Matthew Dillon's full featured, powerful C compiler. Counts as 2 disks. Also see DD79.

**DD79ABCD: Amiga C Tutorial** - This is the most comprehensive C language, Amiga-oriented set of tutorials available. Includes full working examples, source code and lessons. An invaluable tutorial 4 disk set, counts as 3.

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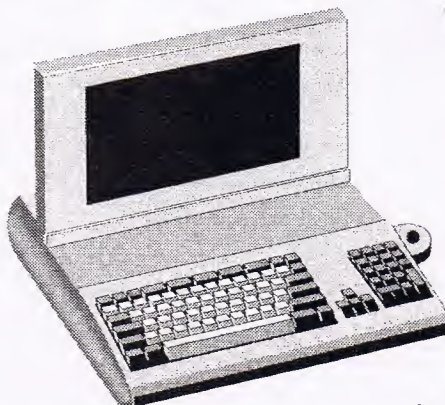
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# THE LAST WORD

*Kudos, complaints, comments, concerns, and contributions from our readers.*

## COME, GET TOGETHER

Now that we have this time of suspended animation, there is work to be done—work that *AmigaWorld* is in an optimal position to help organize. Someone needs to get the various interests together to help forge the future of the Amiga. I am convinced that no one is going to singlehandedly “save” our machine. The Amiga’s salvation will come from the work of a group of intensely interested people who will start by coming up with a vision of where the Amiga needs to go from here—in marketing, product development, interaction with wholesalers and dealers and perhaps most of all with the hundreds of thousands of Amiga owners.

Here are two of my own ideas: First, a most significant event has occurred and is waiting to be snatched like a ripe plum—the development of the PowerPC chip. After all, if this chip can switch between the IBM PC and Apple operating systems, it’s got to be able to be adapted for the Amiga. Second, surely someone can finally come out with an Amiga-compatible laptop. I gave up some time ago and bought a 386, and I can now state from personal experience that trying to read an MS-DOS manual is like tackling a poor translation of original Sanskrit.

**Gregory L. Pittman, MD**  
*Louisville, Kentucky*

## MARKET IT WELL!

Some marketing advice for Amiga-USA, whoever you are:

1. Immediately announce through ads in appropriate magazines, press releases, and so on, that the Amiga is not dead, but is back and healthy.

2. Play up the Amiga name, not Commodore.

3. Use Commodore’s erstwhile marketing as a *reverse* role model for future advertising. (The verbose, archaic-looking ads in Amiga magazines were a waste of money and amounted to “preaching to the choir.”

Win some much-needed friends at multiplatform magazines by spending ad dollars with *DV Magazine*, *THE Journal*, *New Media*, *Computer Pictures*, and others—and don’t forget the pro and consumer video magazines.

4. Use NewTek as a positive role model for advertising. Highly visible, slick ads in video magazines made the Video Toaster a household word and a respected item in video studios everywhere almost overnight.

*The Amiga’s salvation will  
come from the work of a group  
of intensely interested people  
who will start by coming up  
with a vision of where the  
Amiga needs to go from here.*

5. Take advantage of Hollywood’s use of the Toaster as a cost-effective tool of preference to market the Amiga. Spotlight those little-known but seen-all-over-the-place uses of the Amiga, such as ballparks, Vegas light displays, TV series, InfoChannels, and so on.

6. Keep the low-end product low-priced. There should always be a stripped-down, bare-bones version for entry-level users, designed to be upgradable so you can keep selling them add-ons as they come to afford them.

7. Target the Amiga’s strongest higher-end product to its strongest thicker-wallet users—the corporate, educational, cable, broadcast, and serious, free-lance video-production market.

8. *AmigaWorld* could help by soliciting and printing Amiga-user success stories to give the faithful some ammunition with which to convince their

bosses or other potential purchasers not to squander their money chasing ever-changing mainstream “catch-up” technology.

**Ken Sauer**  
*Greeley, Colorado*

## PHOENIX, ARISE!

As I watch the Commodore liquidation process, I praise *AmigaWorld* for doing whatever is necessary to stay in the black (e.g., cutting back the number of pages or whatever) and providing a positive forum for the Amiga community. Whoever turns out to be at the helm, let’s support them directly by inputting what we want to see in the next generation of machines. For myself, I know I’d like to see the fastest, most affordable RISC processor, capable of sustained 100–300 MIPS, full 32-bit color (8-bit Alpha), 16-bit stereo sound, a stable power supply, full 1.3–3.0 DOS emulation built in for software compatibility, and expandable chip RAM.

**Gary Poole**  
*Albuquerque, New Mexico*

## BE THOU UPBEAT!

Commodore is dead, but the Amiga is alive! Waste not your thoughts on where support will come from. Care not that you are now an orphan computer user, but revel in the fact that your Amiga is still king of the video hill. Sweat it not that *AmigaWorld* shrinks in size, but renew your subscription as I recently did, because it is a good magazine and deserves your continued support in these difficult times.

Lastly, congratulate yourself. While others wallow in the lugubrious World-of-Windows, while others shell out thousands for video-processing power substandard to the Amiga, while only a few expensive Macs and IBMs start to catch up to your Amiga, you have it now. Use it. And fret no longer.

**Steve Randall**  
*Yuma, Arizona* ■

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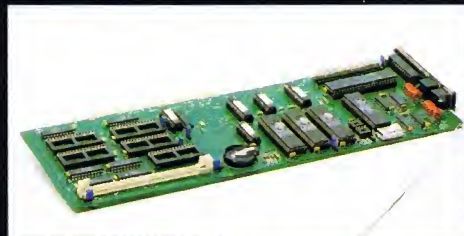
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